DOCUMENT RESUME

ED 290 286 EC 201 748

AUTHOR	Striefel, Sebastian; And Others
TITLE	Grouping Handicapped and Non-Handicapped Children in Mainstream Settings. The Functional Mainstreaming for Success (FMS) Project. Project Review Papers. Final Report--Part 3.
INSTITUTION	Utah State Univ., Logan. Developmental Center for Handicapped Persons.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC. Handicapped Children's Early Education Program.
PUB DATE	24 Aug 87
GRANT	G008401757
NOTE	309p.; For Part 1 and 2 of the Final Report, see EC 201 746-747. For selected papers, see EC 201 749 and EC 201 751-759.
PUB TYPE	Collected Works - General (020) -- Information Analyses (070)
EDRS PRICE	MF01/PC13 Plus Postage.
DESCRIPTORS	Competence; Delivery Systems; Demonstration Programs; *Disabilities; *Instructional Effectiveness; *Mainstreaming; Parent Role; Peer Teaching; Preschool Education; Teacher Attitudes; *Teacher Education
IDENTIFIERS	Early Intervention; *Functional Mainstreaming for Success Project; *Reverse Mainstreaming

ABSTRACT

The review papers are a product of the 3-year project, "Functional Mainstreaming for Success," designed to develop a model for instructional mainstreaming of 162 handicapped children (3-6 years old) in community settings. The major feature of the project was development of a full reverse mainstreamed preschool program, which included children with and without handicaps in the same class in a 50:50 ratio. Individual papers have the following titles and authors: "Effective Mainstreaming: A Re-definition and Proposed Model" (Sebastian Striefel et al); "Successful Mainstreaming: The Elimination of Common Barriers" (Paul Adams et al); "Mainstreaming and Teacher Competency: Some Concerns about the Adequacy of Teacher Training" (Paul Adams et al); "A Review and Synthesis of Teacher Competencies Necessary for Effective Mainstreaming" (Paul Adams et al); "Teacher Attitudes toward Mainstreaming: A Literature Review" (Trenly Yanito et al); "Mainstreaming: A New Role for the Special Educator" (Maria Quintero et al); "A Model for Integrated Preschool Classroom Service Delivery" (John Killoran et al); "Tri-Partite Model of Teacher Training" (Paul Adams et al); "A Critical Review of Parent Involvement in Mainstreaming'" (Maria Quintero et al); "Preparing Regular Classroom Students for Mainstreaming: A Literature Review" (Stacey Mott et al); "A Review of Procedures and Issues in Preschool Peer Tutoring and Buddy Systems" (Brady Phelps et al). (DB)

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This product was developed by the
Functional Mainstreaming for Success (FMS) Project

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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EFFECTIVE MAINSTREAMING: A RE-DEFINITION AND PROPOSED MODEL

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Introduction

There is no universally agreed upon definition of what constitutes effective and functional mainstreaming. Dailey (1974) and Karnes and Lee (1978) found definitions as simplistic as merely "de-labeling" students in self-contained classes and returning them to regular classrooms. Kaufman, Gottlieb, Agard, & Kukic's (1975) definition of mainstreaming, one that is cited frequently, is as follows: "Mainstreaming refers to the temporal, instructional, and social integration of eligible exceptional children with normal peers based on an ongoing individually determined educational planning and programming process and regular clarification of responsibility among regular and special education administrative, instructional, and support personnel" (pp. 40-41).

Birch (1974) emphasizes the fact that mainstreaming is a process rather than an event. That is, one single act or event (such as transgerring a child from a self-contained to a regular classroom) does not constitute mainstreaming. Schulz and Turnbull (1983) concur with this idea of mainstreaming as a process, and spend several pages in their book defining the parameters of the process. Other authors have stressed the fact that mainstreaming is a continuum of educational services (Beery, 1972; Karnes & Lee, 1978). This continuum may range from full time in a special education class, with normal peers being "mainstreamed" into the class as "buddies", peer tutors, etc.; to full time in a regular class with brief periods (in-class) of supplemental instruction by specialists (e.g., speech, reading, physical therapy). Recognition of the fact that mainstreaming is a process, not an event, and that it provides services along a continuum, seems essential if mainstreaming is to be effective.

What Mainstreaming is NOT

In attempting to define effective and functional mainstreaming, it may be will to address some persistent misconceptions by clarifying what mainstreaming is not (Redden, 1975; Schulz and Turnbull, 1983). Mainstreaming is not the wholesale return of all exceptional students from special education to regular classes, nor is it the total elimination of self-contained special education classes. Mainstreaming is not simply the physical placement of exceptional students in the regular classroom; nor is it placing those students with special needs in regular classes without the provision of essential support services. The typical assumption that every student placed in a regular class will remain in that setting for the entire day is false, as is the assumption that the total educational responsibility for students with handiaps is assumed by the regualr educator. Mainstreaming is not blindness to the reality that some students reuire more intensive and specialized services thasn can be provided in a regular classroom. Mainstreaming is not necessarily less costly than serving students in special self-contained classrooms.

It should be recognized, however, that in actual application, mainstreaming has sometimes been implemented and practiced inappropriately; for instance, fiscal concerns have unfortunately been the primary determinant for "mainstreaming" students in some schools (Schiff, Scholom, Swerdlik, & Knight, 1979). The practice of inappropriate mainstreaming has done much to perpetuate the above-mentioned misconceptions.

Proposed Definition of Mainstreaming

"Successful mainstreaming is a continuing process rather than a discrete event. It includes the instructional and social integration of students who have handicaps into educational and community environments with students who do not have handicaps. Successful mainstreaming must:

1. Be based on the decision of the IEP team that a child can potentially benefit from placement with children who are not handicapped (Brown, Falvey, Vincent, Kaye, Johnson, Ferrara-Parrish, & Gruenewald, 1980; Johnson & Johnson, 1981; Nash & Boileau, 1980; Weinstein & Pelz, 1986; Wilcox & Bellamy, 1982);
2. Provide a continuum of least restrictive placement options which range from brief periods of limited interactions, to full-time participation in regular classrooms (Deno, 1973; Price & Weinberg, 1982; Nash & Boileau, 1980; Reynolds and Birch, 1982; Thompson & Arkell, 1980; Weisenstein & Pelz, 1986);
3. Specify the responsibility of students, parents, regular and special education teachers, administrators, and support personnel (Cansler & Winton, 1983; Hughes & Hurth, 1984; Johnson & Johnson, 1986; Pasanella & Volkmor, 1982; Peterson, 1983; Powers, 1983; Taylor, 1982; Weisenstein & Pelz, 1986; Zigmond & Sansone, 1981);
4. Include pre-placement preparation, post-placement support, and continued training for students with and without handicaps, their parents, teachers, administrators, and support personnel (Cansler & Winton, 1983; Donaldson, 1980; Guralnick, 1983; Hughes & Hurth, 1983; Larrivee, 1981; Peterson, 1983; Powers, 1983; Nash &

Boileau, 1980; Reynolds & Birch, 1982; Schwartz, 1984; Taylor, 1982; Thompson & Arkell, 1980; Zigmond & Sansone, 1981);

5. Maximize appropriate interactions between children with and without handicaps through structured activities (such as peer tutoring or buddy systems) and social skills training, as appropriate to specific situations and abilities (Arick, Almond, Young, & Krug, 1983; Gresham, 1981; Hughes & Hurth, 1984; Johnson & Johnson, 1981; Madden & Slavin, 1983; Reynolds & Birch, 1982; Schwartz, 1984; Stainback & Stainback, 1981; Stainback, Stainback, & Jaben, 1981; Taylor, 1982; Voeltz, Keshi, Brown & Kube, 1980; Walker, 1983; Weisenstein & Pelz, 1986);
6. Provide functional, age-appropriate activities that prepare the child with handicaps to function in current and future community environments (Brown, Nietupski, Hamre-Nietupski, 1976; Brown, et al., 1980; Wilcox & Bellamy, 1982; Wilcox, McDonnell, Rose & Bellamy, 1983); and
7. Occur without major long-term disruption of ongoing educational activities or other detriments to children with and without handicaps in the mainstream setting (Cooke, Ruskus, Appolonia & Peck, 1981; Hamline, 1985; Price & Weinberg, 1982; Vergon & Ross, 1981).

Proposed Model of Mainstreaming

Striefel, Killoran, Quintero & Allred (1985) have outlined a mainstreaming "model" which they perceive as reflecting current practices (see Figure 1). This model includes physical, social, and instructional integration, with a certain degree of preparation sometimes preceding mainstreaming. The model is essentially limited to the school environment. They have also developed an alternative model (see Figure 2) which they propose as one more likely to result in successful mainstreaming. A comparison of these two models reveals interesting contrasts.

The proposed model emphasizes the need for organized preparation of students (both those with and without handicaps) of parents of both groups, of teachers, and of school administrators (ideas strongly advocated by Salend, 1984). This preparation includes specific instruction for students without handicaps in peer tutoring, buddy systems, and the use of social reinforcers. Teachers are given training to help initiate and facilitate activities which promote interaction among students. Ideally, this training occurs before a student is mainstreamed into the regular classroom and continues after mainstreaming in the form of technical service and support. Efforts are also made to prepare students with handicaps, while they are still in self-contained classrooms, for entry into regular classrooms.

Insert Figures 1 & 2 here

Another interesting feature in this proposed model is the change of sequence of two steps in the mainstreaming process. Currently, social integration is seen as a precursor to instructional integration (e.g., Kaufman et al., 1975). Striefel et al. (1985) equate these steps in the proposed model. The rationale for equating the two steps stems from the stark reality that physical proximity of students with and without handicaps does not, in itself, result in significant social interaction (Allen, 1980; Gresham, 1982). Too often the interaction that does occur is teacher mediated and does not transfer to other situations. Indeed, some research suggests that physical proximity alone may result in more negative attitudes toward students with handicaps than occurs when such students are isolated in self-contained classrooms (Gresham, 1982). Gresham further concludes that when interactions with peers do occur they are infrequent, and often negative in nature.

The proposed model calls for instructional activities that may be structured and reinforced by the teacher, but that require student-student interaction rather than student-teacher-student interaction (see also, Allen, 1980; Guralnick, 1973). It utilizes several peer mediated strategies. The model advocates the use of buddy systems, peer tutoring, and cooperative activities in a variety of contexts, and with different students involved. The intent is to increase the familiarity, acceptance, and ease of interaction between both groups, and to increase generalization to settings beyond the school (Striefel et al., 1985). This concept makes a great deal of sense if education staff will just look at their own circle of friends. Did the majority of those friendships develop on the basis of proximity (e.g., living in the same neighborhood) or did they emerge through joint participation in structured activities (e.g., work, clubs, church, etc.)? For most people, the latter category exceeds the former. The assumption being made by Striefel et al. (1985) is that a series of structured activities which promote interaction with a number of students is a natural and effective way of promoting social integration, which may then transfer spontaneously to other contexts (i.e., recess, lunch, community, etc.). In some cases, instructional integration slightly precedes social integration; in other cases, the reverse is true; but in most cases the two occur concurrently.

A final major difference between the "current" and "proposed" models is the open-ended nature of the proposed model. Striefel et al. (1985) suggest that mainstreaming is not complete if limited to the school setting. The concept is broadened to include maximal integration in the community at large. In essence, mainstreaming may be seen as the initial transition phase or preparation program for students with handicaps who will eventually leave schools to enter the job market or to live independently. The authors define the role of the regular classroom teacher as promoting and reinforcing appropriate social interactions, but have not yet provided a clear delineation of the responsibilities of the school system and those of other agencies or individuals. In part, this is because the model is still in development. Despite this limitation, however, Striefel et al. (1985) clearly indicate a need for a broader view of mainstreaming.

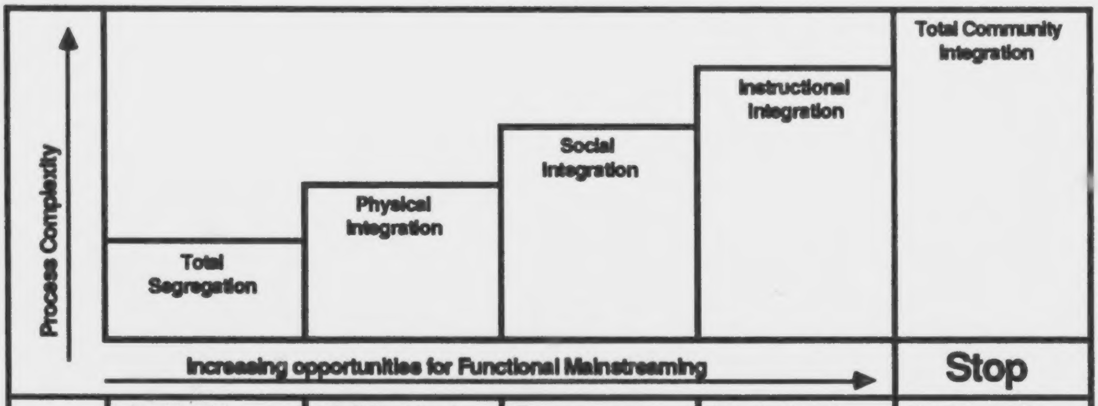
Mainstreaming Placement Options

As an extension of the definition and model explicated above, the following delineation of mainstreaming placement options is offered (see Figure 3). The intent of this discussion is to demonstrate how the definition and model may be applied in actual practice by an IEP team. By answering the questions posed, IEP teams will have much greater success in developing appropriate mainstreaming goals for individual students. The options suggested also give IEP teams the flexibility to attempt some type of mainstreaming activity for nearly all students, even those with severe handicapping conditions. Conceptualizing mainstreaming as a continuum of placement options seem far preferable to the rather rigid all-or-nothing thinking that has impeded mainstreaming efforts for some people in the past.

Summary

Mainstreaming has, in the past, been characterized by inadequate definitions, limited models, and vague conceptualization. The attempt has been made in this paper to offer a comprehensive definition, a viable model, and a continuum of placement options. It is hoped that the ideas discussed are internally consistent and coherent. However, the authors invite critique (indeed, their own critique of these ideas is ongoing), as educators and researchers continue to struggle to find solutions to the problems encountered in our joint efforts to provide the best possible educational experiences for students with and without handicaps.

Figure 1



Process Complexity
Total Segregation
Physical Integration
Social Integration
Instructional Integration
Total Community Integration
Increasing opportunities for Functional Mainstreaming
Stop

	Total Segregation	Physical Integration	Social Integration	Instructional Integration	Total Community Integration
Location Options	Residential, Homebound, or Special School.	Self-Contained classroom. Education in the same building or in the same classroom via individual aide.	Resource room Playground Assembly room Busstop Lunchroom	Introduction of student with handicaps in small or large classroom (if student has grouping skills). Inclusion of student is ongoing group academic activities. May involve individual adaptation of materials.	No community transfer.
On-Going Integration Activities	None	None	Arranged non academic classroom activities: art library time, simply placed together, or, Teacher-mediated play. In some locations peers prepared through puppetry, simulations, films, and/or books for awareness of handicaps. Teacher may be prepared through inservice.	e.g., social studies, science, interactions in music, art, story time, etc. Receiving teacher is identified through enlistment of volunteers; prepares by conferring with sending teacher. Persons with moderate, severe, and multiply intellectual handicaps rarely achieve this step. Limited research includes peer tutoring and buddy systems.	None

Striefel, Killoran, Quintero, & Allred (1985)

Figure 2

Process Complexity	Total Segregation	Physical Integration	Instructional/ Social Integration Concurrent occurrence recommended between instructional and social integration	Total Regular Classroom Integration	Total Community Integration
	Increasing opportunities for Functional Mainstreaming				
Location Options	Residential, Homebound, or Special School.	Self-Contained classroom. Education in the same building or in the same classroom via individual aide.	Resource room and/or regular classroom environment. Small group instruction and/or large group instruction. Playground Assembly room Busstop Lunchroom	Fulltime placement into regular education classroom.	Neighborhood community daycare. Church group Vocational placement (depedent upon age). Social activities
On-Going Integration Activities	None	Special educator identifies student skills for mainstreaming, begins programming with this goal in mind. Parents of students with handicaps are introduced to mainstreaming. Student with handicap preparation begins. Increase knowledge base through puppetry, simulations, films, books, inservice, and workshops. Target: receiving teacher, nonhandicapped peers, administrators, parents of nonhandicapped students. Training and technical assistance for teachers.	Initiate behavior practice, role-play with peers. Structure, prompt, and praise as needed to encourage positive child/child contacts. Train and use peer buddies and tutors as models, helpers and trainers for academic/preacademic activities and structured peer-buddy interactions in music, art,story time,etc. Rotate peer tutors/buddies without handicaps among students with handicaps in order to increase familiarity, and acceptance between both groups. Observe for spontaneous transfer. Training and technical assistance for teachers.	All previous activities could be relevant. Structure, prompt, and praise. Training and technical assistance for teachers. All school and class activities. Observe for spontaneous transfer in participating students.	Public relations preparation through awareness training (PTA, parent groups, workshops, radio, television, newspapers, puppetry, simulation). Training and technical assistance for teachers. Observe for spontaneous transfer in participating students. "Booster" sessions Rehearsal/practice if needed.

Striefel, Killoran, Quintero, & Allred (1985)

Figure 3

Question one-(a): WHAT PLACEMENT OPTIONS ARE APPROPRIATE FOR THE TARGET STUDENT?

option one: Remain in self-contained program, do reverse mainstreaming using buddies and tutors.

a. < daily b. daily c. > daily

option two: Low demand activities (few student skills required); e.g., hall before/after school, lunch, bus, playground.

a. < daily b. daily c. > daily

option three: Intermediate demand activities (moderate level of student skills required); e.g., art, music, phys-ed, show-and-tell, some academic exercises.

a. < 1 hr./day b. 1-3 hrs./day c. > 3 hrs./day

option four: High demand activities (high level of student skills required); e.g., academics at least at, or a grade lower than, student's chronological grade equivalent.

a. < 1 hr./day b. 1-3 hrs./day c. > 3 hrs./day

option five: Full integration (high level of student skills required); student is in regular classroom for entire day.

a. Student leaves classroom only briefly for remedial or support services.

b. All remedial or support services provided within the regular classroom.

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Note: A student could be in different placements simultaneously; e.g., Mainstreaming for academic activities could be in placement option one, but mainstreaming for social activities might be in options two or three.

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Question one-(b): IF THE CHILD IS NOT DEEMED APPROPRIATE FOR FULL-TIME MAINSTREAMING IN A REGULAR CLASSROOM, WHAT MUST BE DONE TO PLACE THE CHILD IN THE NEXT LEAST RESTRICTIVE PLACEMENT OPTION?

1. What are the reasons against such a placement?

   -student skill deficits
   -teacher skill deficits
   -parent difficulties
   -peer difficulties
   -environmental limitations
   -medical complications
   -other reasons

2. What is the least restrictive environment at the present time?

3. What must be done to prepare the target student for mainstreaming in a less restrictive environment than the present one?

   -specify goals and objectives
   -begin student training in deficit areas

4. What teacher training is needed?

   -assess training needs
   -specify goals and objectives
   -begin training

5. Schedule IEP review meeting to re-evaluate placement.

   -effectiveness of current remedial and training efforts
   -readiness for new activities in current placement
   -readiness for change to more demanding placement
   -developments of new IEP goals

Question two-(a): WHAT IS THE ACTIVITY (OR ACTIVITIES) IN WHICH THE STUDENT WILL PARTICIPATE?

-What types of activities are available?
-Does the student have existing skills which make one activity more likely to be a "success experience"?
-Is the activity one that will help the student develop new skills?

Question two-(b): WHAT IS THE PURPOSE UNDERLYING EACH ACTIVITY?

-What skills will be developed through participation in this activity? (e.g., academic, social, motor, etc.)

-Does everyone on the IEP team clearly understand the purpose for a particular activity? (e.g., participation in an art activity could be intended primarily for social interaction; thus completion of a particular art project might be relatively unimportant.)

Question three: WHAT PREPARATION IS NEEDED FOR INTEGRATION AT THE LEVEL(S) IDENTIFIED?

-What are potential receiving environments/classes?
-What are the teacher's preparation needs?
-What are the staff's preparation needs? (e.g., aides, bus drivers, custodians, cooks)
-How will peers and their parents be prepared?
-What further information/preparation do target child's parents need?
-What skills must target child begin learning immediately?
-When will the child be placed?
-What physical environmental adjustments (if any) are needed?

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Successful Mainstreaming: The Elimination of Common Barriers

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This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

Running Head: SUCCESSFUL MAINSTREAMING

Abstract

This paper discusses some identified common barriers to effective mainstreaming, including: (a) the continued reluctance of too many teachers and teacher trainers to accept the changes necessitated by mainstreaming; (b) the lack of agreement on how to define mainstreaming; (c) the inadequacy of current models of mainstreaming; and (d) the necessity of certain systemic changes in the greater system of which teachers are a part. A compre- hensive seven point definition and a model of mainstreaming are provided and discussed in terms of the facilitation of systematic and successful mainstreaming. Finally, fifteen "systemic changes" essential for successful mainstreaming are outlined and discussed. These include changes in preservice teacher training, redefining roles of special educators, identifying "principal competencies" for administrators, and strategies for increasing teacher time for individual interactions with students.

Successful Mainstreaming: The Elimination of Common Barriers

The passage of Public Law (PL) 94-142 in 1975 had a major impact on the field of education, as illustrated by a review of the Education Index. The term "mainstreaming" is not listed as a topical heading in the first 24 volumes (prior to 1975), though articles on mainstreaming are found under other headings. Volume 25 (1974 - 1975) does list "mainstreaming," but merely refers the reader to other headings where articles on mainstreaming can be located. Not until Volume 26 (July 1975 - June 1976) does "mainstreaming" appear as a topical heading with a list of pertinent articles. From Volume 26 (1975 - 1976) to the current volume (#35, 1984 - 1985), the number of indexed articles on some aspect of mainstreaming is over 800. Such a large number of articles seems indicative of the increasing importance of mainstreaming as an issue of relevance for educators.

Concerns About Mainstreaming

The concept of mainstreaming is not, however, one that has been universally welcomed and acclaimed (Crisci, 1981; Gallent, 1981; Gickling & Theobald, 1975; Hudson, Graham, & Warner, 1979; Sarason & Doris, 1978; Schanzer, 1981; Vallecorsa, 1983; Vandivier & Vandivier, 1981). The major concern is not whether children who have handicaps need an education, nor whether they have the right to an adequate education at public expense. Rather, contention focuses on the vehicle for providing that education; in essence, is the public school classroom the most appropriate place to educate all children, regardless of handicapping conditions (Davis, 1980-81; Ogletree, 1981; Retish, 1982; Schiff, Scholom, Swerdlik, & Knight, 1979)? Questions have been raised about a number of issues, including the legislative intent of PL 94-142 (Bates, 1981; Jones, no date; Schiff et al., 1979; Tice, 1981); the possible detrimental effects of mainstreaming on the quality of education of nonhandicapped students (Hudson et al., 1979; Johnson, 1979); the precise goals and purposes of mainstreaming (Gottlieb, 1982; Stainback & Stainback, 1983; Zigmond & Sansone, 1981); conflicting ideas about the "best" way to mainstream (Gresham, 1983; Ogletree, 1981; Retish, 1982; Zigmond & Sansone, 1981); possible negative effects of mainstreaming on the students being mainstreamed (Gresham, 1982; Retish, 1982; Schanzer, 1981) and concern about the possibility of substantial teacher stress resulting from mainstreaming (Bensky, Shaw, Gouse, Bates, Dixon, & Beane, 1980; Fimian, 1983; Haight, 1984; Minner & Beane, 1983).

Benefits of Mainstreaming

Research on the benefits of mainstreaming reports inconsistent, conflicting results. There are few, if any, unequivocal, incontrovertible, data-based facts. There are, however, some reasonable conclusions that can be drawn from the research literature. In a meta-analysis of 50 studies on the efficacy of special versus regular class placement, Carlberg and Kavale (1980) conclude that, "the result of existing research when integrated statistically demonstrated that special class placement is an inferior alternative to regular class placement in benefiting children removed from the educational mainstream" (p. 304). However, they note that many children diagnosed as having learning, emotional, or behavior disorders, may still require, and often benefit from, time in self-contained classrooms. Clearly then, identifying the educationally least restrictive environment for a child should occur on an individual, not a group basis. This individual identification is also a mandate of PL 94-142.

The academic performance of student with mild handicaps is better in regular classes _if_, and this is a highly significant "if", there is individualized instruction in the class and if there is adequate support, when needed, from well-designed supplemental resource programs (Madden & Slavin, 1980; Wang & Birch, 1984). Similarly, if there is adequate support, regular class placement improves social-emotional outcomes (e.g., increased self-esteem, personal adjustment, reduced anxiety) in students who are handicapped (Madden & Slavin, 1983). Some educators also maintain that nonhandicapped students benefit significantly by exposure to, and interaction with, students who are handicapped. For example, "future service providers" (physicians, waiters, architects, teachers, school board members, etc.) and "future parents" of children who have handicaps will have exposure to handicapping conditions in a context that promotes understanding and tolerance rather than stereotypes and biases (Brown, Ford, Nisbet, Sweet, Donnellan, & Gruenewald, 1983). Certainly, children with handicaps are better prepared to function in the "real world" if they are in regular classrooms, for at least part of the day, rather than segregated and completely isolated all day in self-contained classes (Brown et al., 1983).

The results of mainstreaming research are mixed; some results are positive and some are negative. The mixed results reported may be due to the variation in how the concept of the least restrictive environment is implemented (Zigler & Muenchow, 1979). This variation in implementation may be attributed to the lack of precise guidelines and procedures for implementing mainstreaming (Salend, 1984).

The stark reality for educators, however, is that mainstreaming is here to stay. In spite of unanswered questions and unresolved conflicts, students with a wide range of handicapping conditions are entering/reentering classrooms across the nation. And teachers are expected, almost regardless of their interest, level of training, or past experience, to provide a quality education for these students. That this can be accomplished, even with students who are severely or profoundly handicapped, is demonstrated by the Albuquerque Public School System, where a successful mainstreaming project is an ongoing "success story" (Thomason and Arkell, 1980). The parents of the first students mainstreamed were initially opposed to the project, but within the first year they donated money (raised to hire an attorney to block the project) to continue and expand this "side-by-side" approach to mainstreaming (Jerry Dominguez, personal communication, Nov. 1984).

The public school system has been deemed, by legislative fiat, if for no other reason, the most appropriate place for all handicapped students to gain the maximum possible academic education, social integration with peers, and preparation for adult self-sufficiency. The issue for educators today is not whether or not to mainstream students, but how best to go about doing it (Bogdan, 1983; Wilcox & Sailor, 1980).

Definition of Mainstreaming

What Mainstreaming is NOT

In attempting to define effective and functional mainstreaming, it may be well to address some persistent misconceptions by clarifying what mainstreaming is not (Redden 1976; Schultz & Turnbull, 1983). Mainstreaming is not the wholesale return of all exceptional children from special education to regular classes, nor is it the total elimination of self-contained special education classes and special education teachers. Mainstreaming is not simply the physical placement of exceptional children in the regular classroom, nor is it placing those children with special needs in regular classes without the provision of essential support services (Zigmond & Sansone, 1981). The typical assumption that every child with handicaps placed in a regular class will remain in that setting for the entire day is false, as is the assumption that the total educational responsibility for students with handicaps is assumed by the regular educator. Mainstreaming is not blindness to the reality that some children require more intensive and specialized services than can be provided in a regular classroom. Mainstreaming is not necessarily less costly than serving children in special self-contained classrooms.

It should be recognized, though, that in actual application, mainstreaming has sometimes been implemented and practiced inappropriately (e.g., fiscal concerns being the primary determinant for mainstreaming students, Schiff et al., 1979). The practice of inappropriate mainstreaming has contributed extensively to the perpetuation of the above mentioned misconceptions.

No Single Definition Widely Accepted

Another difficulty is that there is no universally agreed upon definition of what mainstreaming actually is. Dailey (1974) and Karnes and Lee (1978) found definitions as simplistic as merely "de-labeling" children and returning them to regular classrooms. Kaufman, Gottlieb, Agard, and Kukic's (1975) definition of mainstreaming, one that is cited frequently , is as follows: "Mainstreaming refers to the temporal, instructional, and social integration of eligible exceptional children with normal peers based on an ongoing individually determined educational planning and programming process and regular clarification of responsibility among regular and special education administrative, instructional, and support personnel" (pp. 40-41). These definitions, although more precise than others, do not address the roles of parents and peers in mainstreaming, does not give direction for who decides upon mainstreaming a student, and does not specify the components of preparation, implementation and follow-through needed for addressing changes as mainstreaming decisions are reached. Furthermore, it may be unrealistic to expect to define a process as complex and controversial as mainstreaming in simple terms.

The following guidelines on mainstreaming are suggested by the Council for Exceptional Children (as cited in Redden, 1976).

Mainstreaming is: (a) providing the most appropriate education for each child in the least restrictive setting; (b) looking at the educational needs of children instead of clinical or diagnostic labels such as mentally handicapped, learning disabled, physically handicapped, hearing impaired, or gifted; (c) looking for and creating alternatives that will help general educators in serving children with learning or adjustment problems in the regular setting (some approaches being used to help achieve this are consulting teachers, methods and materials specialists, itinerant teachers and resource room teachers); (d) uniting the skills of general education and special education so that all children may have an equal educational opportunity.

Mainstreaming Defined as a Process

Birch (1974) has outlined 14 points emphasizing that mainstreaming is a process rather than a single act. That is, one single act or event (such as transferring a child from a self-contained to a regular classroom) does not constitute effective mainstreaming. The process of mainstreaming includes preplacement preparations, a continuum of placement options, and the provision of necessary support services on a long-term basis. Schulz and Turnbull (1983) concur with this idea of mainstreaming as a process, and spend several pages in their book defining the parameters of the process. Other authors have stressed the fact that mainstreaming is a continuum of educational services (Beery, 1972; Karnes & Lee, 1978). This continuum may range from full time in a self-contained class, with normal peers being integrated into the class for brief periods as buddies, peer tutors, etc.; to full time placement in a regular class with brief periods (in-class) of supplemental instruction by specialists (speech, reading, etc.).

Recognition of the fact that mainstreaming is a process, and that it provides services along a continuum, seems essential to understand the rationale for mainstreaming. This rationale begins with the assumption that children with handicaps have the same right to education as nonhandicapped children. Research on special education vs. mainstreamed regular education indicates that many mainstreamed children do better than those in special classes on a range of academic measures (Carlberg & Kavale, 1980; Madden & Slavin, 1983). Far more critical, however, for children with all degrees and types of handicapping conditions is the social and language interaction which occur with their peers (Gresham, 1982). Once these children leave the school setting, they must compete and survive in a world of people who do not have certification in special education. They must interact with people who often have little factual knowledge, but many preconceived ideas, concerning individuals with handicaps. They will encounter attitudes ranging from indifference, to pity, to rejection. Certainly they will have positive experiences as well, but they must be prepared to deal with, rather than constantly be sheltered from, some of the unpleasant realities of life. One important way for children with handicaps to encounter and cope with all of life is to interact as fully as possible with their peers in school (Brown, et al., 1983). These interactions not only benefit the child with handicaps, but provide other students with an opportunity to see past the differences (in this case, a handicapping condition; in other instances culture, skin color, etc.) to the person. The ultimate goals of mainstreaming are to enable all students, regardless of handicapping conditions, to be educated as fully as possible in the least restrictive environment (which may not, for some students, be the regular classroom) (Masat & Schack, 1981; Weintraub, 1979); to maximize skills and opportunities for social interaction; and to prepare them to interact as fully as possible within current and future environments.

Proposed Definition of Mainstreaming

In view of the characteristics of mainstreaming discussed previously, Striefel, Killoran, Quintero, and Adams (1985) offer a definition of mainstreaming based on input from parents, administrators, and teachers, and incorporating the aspects of mainstreaming which have been deemed critical by various sources. The proposed definition is as follows:

"Successful mainstreaming is a continuing process rather than a discrete event (Birch, 1974; Schultz & Turnbull, 1983). It includes the instructional and social integration of students who have handicaps into educational and community environments with students who do not have handicaps (Johnson & Johnson, 1981; Kaufman, Gottlieb, Agard & Kukic, 1975; Reynolds & Birch, 1982; Turnbull & Schultz, 1979; Weisenstein & Pelz, 1986; Zigmond & Sansone, 1981). Furthermore, successful mainstreaming must:

1. Be based on the decision of the IEP team that a student can potentially benefit from placement with students who are not handicapped (Brown, Falvey, Vincent, Kaye, Johnson, Ferrara-Parrish & Gruenewald, 1979; Nash & Boileau, 1980);
2. Provide a continuum of least restrictive placement options which range from brief periods of limited interactions, to full-time participation in a regular classroom (Deno, 1973; Hughes & Hurth, 1984; Johnson & Johnson, 1981; Stainback, Stainback, & Jaben, 1981; Taylor, 1982; Thomason & Arkell, 1980);
3. Specify the responsibility of students, parents, regular and special education teachers, administrators, and support personnel (Cansler & Winton, 1983; Guralnick, 1983; Hughes & Hurth, 1983);

4. Include pre-placement preparation, post-placement support, and continued training for students with and without handicaps, their parents, teachers, administrators, and support personnel (Cansler & Winton, 1983; Guralnick, 1983; Hughes & Hurth, 1983; Larrivee, 1981; Powers, 1983; Nash & Boileau, 1980; Reynolds and Birch, 1982; Schwartz, 1984; Taylor, 1982; Zigmond & Sansone, 1981).
5. Maximize appropriate interactions between students with and without handicaps through structured activities (such as peer tutoring or buddy systems) and social skills training as appropriate to specific situations and abilities (Arick, Almond, Young & Krug, 1983; Gresham, 1981; Hughes & Hurth, 1984; Johnson & Johnson, 1981; Madden & Slavin, 1983; Reynolds & Birch, 1982; Schwartz, 1984; Stainback & Stainback, 1981; Taylor, 1982; Walker, 1983; Weisenstein & Pelz, 1986);
6. Provide functional, age-appropriate activities that prepare the student with handicaps to function in current and future community environments (Brown, Nietupski & Hamre-Nietupski, 1976; Wilcox & Bellamy, 1982); and
7. Occur without major long-term disruption of ongoing educational activities, or other detriment to any student in the mainstream setting (Cooke, Ruskus, Appolonia & Peck, 1981; Hamline, 1985; Price & Weinber, 1982).

Two Mainstreaming Models

Striefel, Killoran, Quintero & Allred (1985) have outlined a mainstreaming "model" which they perceive as reflecting current practices (see Figure 1). This model includes physical, social, and instructional integration, with a certain degree of preparation sometimes preceding mainstreaming. The model is essentially limited to the school environment. They have also developed an alternative model (see Figure 2) which they propose as one more likely to result in successful mainstreaming. A comparison of these two models reveals interesting contrasts.

A Comparison

The proposed model emphasizes the need for organized preparation of students (both those with and without handicaps) of parents of both groups, of teachers, and of school administrators (ideas strongly advocated by Salend, 1984). This preparation includes specific instruction for students without handicaps in peer tutoring, buddy systems, and the use of social reinforcers. Teachers are given training to help initiate and facilitate activities which promote interaction among students. Ideally, this training occurs before a student is mainstreamed into the regular classroom and continues after mainstreaming in the form of technical service and support. Efforts are also made to prepare students with handicaps, while they are still in self-contained classrooms, for entry into regular classrooms.

Insert Figures 1 & 2 here

Another interesting feature in this proposed model is the change of sequence of two steps in the mainstreaming process. Currently, social integration is seen as a precursor to instructional integration (e.g., Kaufman et al., 1975). Striefel et al. (1985) equate these steps in the proposed model. The rationale for this equating stems from the stark reality that physical proximity of students with and without handicaps does not, in itself, result in significant social interaction (Allen, 1980; Gresham, 1982). Too often the interaction that does occur is teacher-mediated and does not transfer to other situations. Indeed, some research suggests that physical proximity alone, as may occur from mainstreaming under the current model, can result in more negative attitudes toward students with handicaps than occurs when such students are isolated in self-contained classrooms (Gresham, 1982). Gresham (1982) further concludes that when interactions with peers do occur they are infrequent, and often negative in nature.

The proposed model calls for instructional activities that may be structured and reinforced by the teacher, but that require student-student interaction rather than student-teacher-student interaction (see also, Allen, 1980; Guralnick, 1973; Johnson & Johnson, 1980). The model utilizes several peer mediated strategies including buddy systems, peer tutoring, and cooperative activities in a variety of contexts, and with different students involved. The intent is to increase the familiarity, acceptance, and ease of interaction between both groups, and to increase generalization to settings beyond the school (Striefel et al., 1985). This concept makes a great deal of sense if education staff will just look at their own circle of friends. Did the majority of those friendships develop on the basis of proximity (e.g., living in the same neighborhood) or did they emerge through joint participation in structured activities (e.g., work, clubs, church, etc.)? For most people, the latter category exceeds the former. The assumption being made by Striefel et al. (1985) is that a series of structured activities which promote interaction with a number of students is a natural and effective way of promoting social integration, which may then transfer spontaneously to other contexts (i.e., recess, lunch, community, etc.). In some cases, instructional integration slightly precedes social integration; in other cases, the reverse is true; but in most cases the two should occur concurrently.

Extension of Mainstreaming

A final major difference between the "current" and "proposed" models is the open-ended nature of the proposed model. Striefel et al. (1985) suggest that mainstreaming is not complete if limited to the school setting. The concept is broadened to include maximal integration in the community at large. In essence, mainstreaming may be seen as the initial transition phase or preparation program for students with handicaps who will eventually leave schools to enter the job market or to live independently. The authors define the role of the regular classroom teacher as promoting and reinforcing appropriate social interactions, but have not yet provided a clear delineation of the responsibilities of the school system and those of other agencies or individuals. In part, this is because the model is still in development. Despite this limitation, however, Striefel et al. (1985) clearly indicate a need for a broader view of mainstreaming.

Application of Definition and Model in the IEP

The preceding discussion on the definition and model of mainstreaming applies to all students, regardless of circumstances. In actual practice, however, the application of the components of the mainstreaming process need to be much more precise for each individual child. This is where the "individualized education program," or IEP, becomes significant. The IEP specifies just what mainstreaming means for a given student. The content of the IEP defines the "what," "why," "how," "when," "where," and "who" that translate mainstreaming from an abstract ideal to a workable reality. Though the long-range needs of the student are kept in mind, the IEP also specifies short term goals and objectives. Both regular and special education teacher involvement in the IEP is critical (Schulz & Turnbull, 1983) if mainstreaming is to be successful.

Necessary Systemic Changes

Specific systemic changes are needed within the larger educational system, if teachers are to mainstream students effectively. If these systemic changes do not occur, educators will be hindered in their attempts to teach. Some of the following recommendations outline, in rather simplistic fashion, processes that are actually highly complex. Directives like "should," "ought," and "must" are used rather freely, but readers should recognize that some of these recommendations are ideals which may be difficult to effectuate in reality. The systemic changes are offered in the hope of providing some useful guidelines. An extended discussion of these recommendations may be found in Adams, Killoran, Quintero, & Striefel (1986). The suggestions are not listed in order of importance or priority, the numbering is simply to aid readability.

1. Teacher preservice programs should be revised to incorporate the competencies needed for mainstreaming.

2. State education agencies (SEA's) must upgrade teacher certification requirements to guide universities in developing preservice programs.

3. State and national teacher education associations must acknowledge that: (a) mainstreaming is a reality for today's educators; and (b) there is a significant need for high-quality, comprehensive, and practical teacher training, both preservice and inservice.

4. State and national teacher associations, in conjunction with appropriate advocacy groups, must organize task-forces and lobbies to secure additional funding for teacher inservice training.

5. Comprehensive inservice training programs, focusing on teacher competencies needed for mainstreaming, must be developed and implemented.

6. District administrators must actively support and facilitate mainstreaming.

7. There must be an effort made to identify the "principal competencies" necessary for mainstreaming, and to provide training for administrators.

8. Mainstreaming must be seen, by all involved, as an ongoing process rather than a discrete event.

9. The roles of special education teachers must be redefined.

10. Administrators and teachers must identify and implement strategies that increase teacher time for the individual needs of all students (including those who are mainstreamed).

11. Efforts for early identification of children who have handicaps should be promoted, and high-quality early intervention service (preschool) must be legislatively mandated and adequately funded.

12. Procedures and materials must be developed for preparing parents of children with and without handicaps for mainstreaming.

13. Procedures and materials must be developed for preparing students with and without handicaps for mainstreaming.

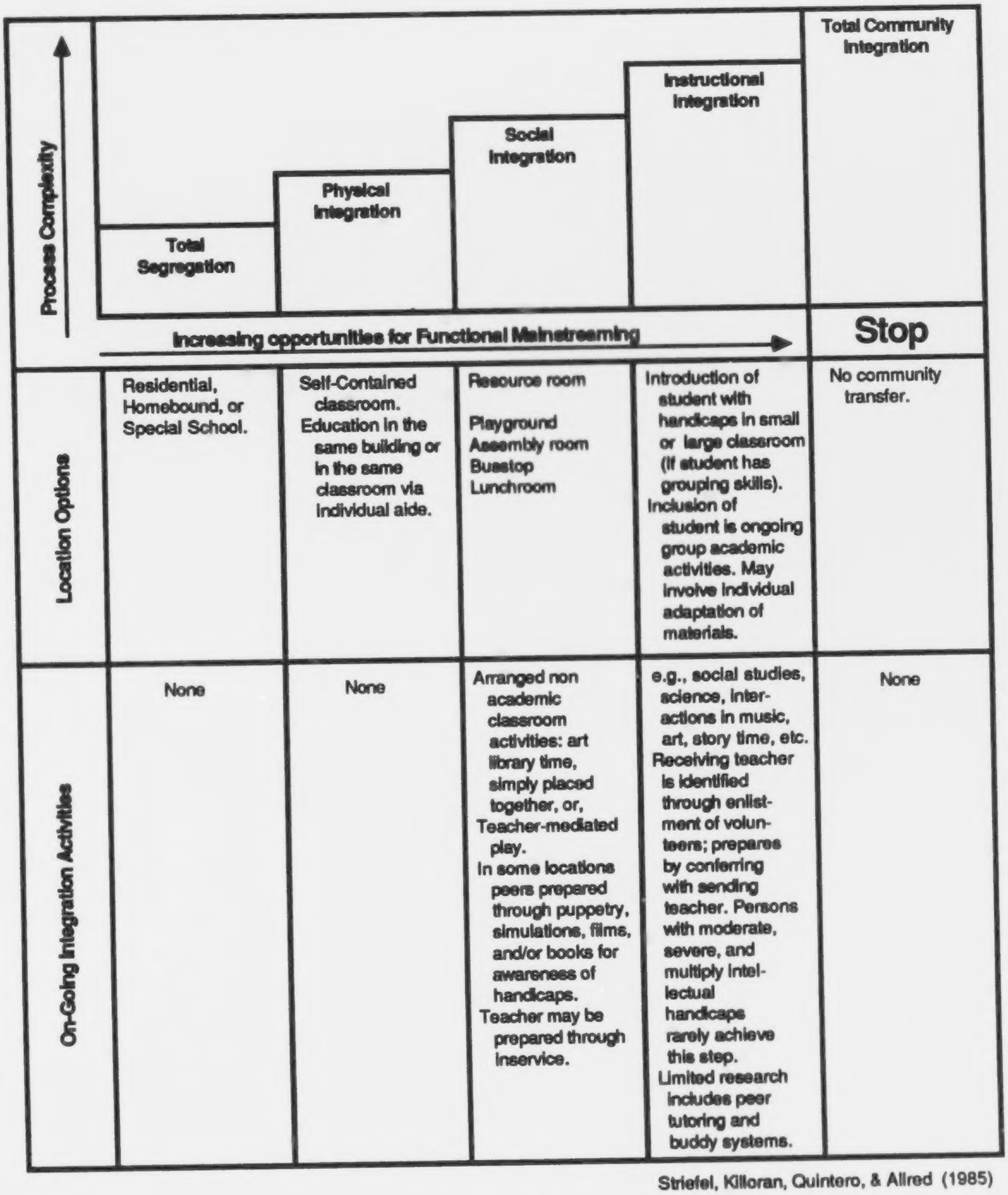
14. Procedures and materials must be developed for the preparation and ongoing training of support staff who will interact with children who are handicapped.

15. Procedures and materials must be developed for the training and effective utilization of para-professionals, volunteers, and peer tutors who work with students being mainstreamed.

Summary

This paper provides specific suggestions which may help eliminate common barriers to successful mainstreaming. First is the need to recognize that mainstreaming represents more than an abstract ideal. It is a reality that must be addressed by the education system in the present, not in the indefinite future. Second, educators discussing mainstreaming have not all been referring to the same thing. A comprehensive definition was provided that stresses the importance of viewing mainstreaming as a process rather than a discrete event. Third, a model for implementing the mainstreaming process was provided as a means for organizing the diversity of activities neded. Finally, a sequence of systemic changes were recommened which would facilitate successful mainstreaming of students with nandicaps not only into regular education, but also into normal community environments.

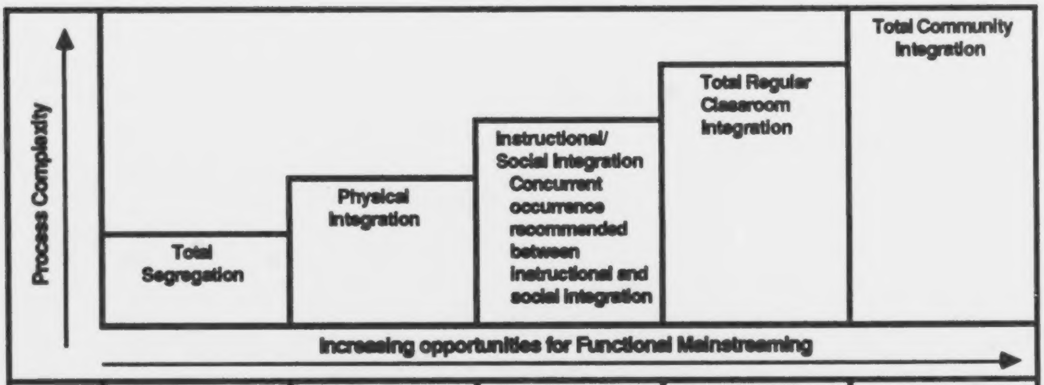
Figure 1



	Total Segregation	Physical Integration	Social Integration	Instructional Integration	Total Community Integration
Location Options	Residential, Homebound, or Special School.	Self-Contained classroom. Education in the same building or in the same classroom via individual aide.	Resource room Playground Assembly room Busstop Lunchroom	Introduction of student with handicaps in small or large classroom (if student has grouping skills). Inclusion of student is ongoing group academic activities. May involve individual adaptation of materials.	No community transfer.
On-Going Integration Activities	None	None	Arranged non academic classroom activities: art library time, simply placed together, or, Teacher-mediated play. In some locations peers prepared through puppetry, simulations, films, and/or books for awareness of handicaps. Teacher may be prepared through inservice.	e.g., social studies, science, interactions in music, art, story time, etc. Receiving teacher is identified through enlistment of volunteers; prepares by conferring with sending teacher. Persons with moderate, severe, and multiply intellectual handicaps rarely achieve this step. Limited research includes peer tutoring and buddy systems.	None

Striefel, Killoran, Quintero, & Allred (1985)

Figure 2


Process Complexity
Total Segregation
Physical Integration
Instructional/ Social Integration Concurrent occurrence recommended between instructional and social integration
Total Regular Classroom Integration
Total Community Integration
Increasing opportunities for Functional Mainstreaming

	Total Segregation	Physical Integration	Instructional/ Social Integration	Total Regular Classroom Integration	Total Community Integration
Location Options	Residential, Homebound, or Special School.	Self-Contained classroom. Education in the same building or in the same classroom via individual aide.	Resource room and/or regular classroom environment. Small group instruction and/or large group instruction. Playground Assembly room Busstop Lunchroom	Fulltime placement into regular education classroom.	Neighborhood community daycare. Church group Vocational placement (depedent upon age). Social activities
On-Going Integration Activities	None	Special educator identifies student skills for mainstreaming, begins programming with this goal in mind. Parents of students with handicaps are introduced to mainstreaming. Student with handicap preparation begins. Increase knowledge base through puppetry, simulations, films, books, inservice, and workshops. Target: receiving teacher, non-handicapped peers, administrators, parents of nonhandicapped students. Training and technical assistance for teachers.	Initiate behavior practice, role-play with peers. Structure, prompt, and praise as needed to encourage positive child/child contacts. Train and use peer buddies and tutors as models, helpers and trainers for academic/pre-academic activities and structured peer-buddy interactions in music, art,story time,etc. Rotate peer tutors/buddies without handicaps among students with handicaps in order to increase familiarity, and acceptance between both groups. Observe for spontaneous transfer. Training and technical assistance for teachers.	All previous activities could be relevant. Structure, prompt, and praise. Training and technical assistance for teachers. All school and class activities. Observe for spontanecus transfer in participating students.	Public relations preparation through awareness training (PTA, parent groups, workshops, radio, television, newspapers, puppetry, simulation). Training and technical assistance for teachers. Observe for spontaneous transfer in participating students. "Booster" sessions Rehearsal/practice if needed.

Striefel, Killoran, Quintero, & Allred (1985)

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Mainstreaming and Teacher Competency:
Some Concerns about the Adequacy of Teacher Training

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Running Head: Mainstreaming and Teacher Competency

Abstract

Evidence is presented of major competency deficiencies in both the pre-service and inservice training of regular teachers. The resulting teacher "competency gap" has been highlighted by efforts to mainstream students who have handicaps. Evidence of the inadequacy of most current teacher training programs comes from multiple sources, including teacher surveys, examination of State Education Agency (SEA) requirements, and the extensive effort expended in the past decade in revising teacher training programs. Specific teacher competencies are identified and ideas are discussed for closing the competency gap. These include: preliminary steps, (e.g., recognizing the extent of change needed), reformulating preservice training, and upgrading inservice training. The authors also identify fifteen "systemic changes" that must occur if mainstreaming is to be successful.

Mainstreaming and Teacher Competency:

Some Concerns About the Adequacy of Teacher Training

This manuscript addresses one of the most critical issues in education today: that is, a distinct gap percentage exists between the knowledge and skills teachers should have, and those they actually demonstrate. This competency gap has been starkly highlighted in the last decade by the effort to individualize education for all students, with emphasis on mainstreaming students who have handicaps (Common Body, 1980).

This paper should not be viewed as being critical of teachers. The criticisms are not directed toward teachers, but are indictments of the level and quality of training, both preservice and inservice, that teachers have received, or are currently receiving. The majority of teacher training programs are no longer adequate to give educators the increasingly broad range of competencies that are required for effective teaching, especially for teaching students who are being mainstreamed.

Evidence of a Competency Gap

Inadequate SEA Guidelines

A recent study (Ganchow, Weber, & Davis, 1984) indicated that less than half of state education agencies (SEA's) had revised certification requirements to prepare regular eductaion teachers to meet the intent of P.L. 94-142. Their study showed that, "14 SEA's had no specific certification requirements; 17 SEA's required one course on exceptionalities; 2 SEA's had one required course pending; 2 SEA's had a two-course requirement; 7 SEA's had specific guidelines; and 8 SEA's made general references to competencies about handicap teaching students who are on their guidelines" (p. 75). Ganchow et al (1984) raise the question of how committed SEA's are to the task of ensuring quality educational experiences for children who are exceptional learners. This criticism is especially cogent when one realizes that 29 states have either no course requirements at all, or else only non-mandated guidelines. Ganchow et al (1984) conclude that, "Although progress is apparent, inadequacies remain in preparing regular teachers to educate exceptional individuals in their classrooms" (p. 75). Similar concerns about the adequacy of teacher preparation have been voiced previously by others (Gearhart & Weishahn, 1980; McLauglin & Kelly, 1982; Keogh & Levitt, 1976).

Outdated Preservice Training

The extensive outcome of A Common Body of Practice for Teachers: The Challenge of Public Law 94-142 to Teacher Education (American Association of Colleges of Teacher Education, AACTE, 1980), is another indicator of the perceived gap between current and requisite levels of teacher competency. This monograph indicates that teachers, as a group, have not had the type of training they need, that teaching has become more complex, and that they should upgrade their skill levels. The teacher competencies identified are those that teachers, as a group, *should* have, not those they actually demonstrate. The spirit of this "challenge" is not one of derogation, but encouragement to increase the professional status of teaching by upgrading minimum competencies for all teachers. To accomplish the goals of Public Law 94-142 can be achieved only if teacher competencies are improved.

> Teacher preparation in America has never been optimal; it always has been minimal. The level of professional expertise developed in preparation programs is far below that needed for effectiveness, even in the most favorable teaching situations. It is disastrously inadequate for meeting the challenges of a delivery system in which all children, exceptional or otherwise, share school learning environments with the nonhandicapped school population. (*A Common Body of Practice*, 1980, p.4).

An "Artificial Gap" Between Regular and Special Education

Changing the preservice training of teachers to prepare them more effectively for mainstreaming, has been advocatged (Corrigan, 1978; Masat & Schack, 1981; and Stamm, 1980). The intent of the "Dean's Grants Projects" was to support innovative restructuring of teacher education programs (Behrens & Grosenick, 1978; Grosenick & Reynolds, 1978). It has been suggested that, when dealing with students who are mildly handicapped, the knowledge and skills required are virtually the same for regular and special educators (Crisci, 1981; Haisley & Gilberts, 1978; Kunzweiler, 1982; Stainback & Stainback, 1984). These authors see the "artificial gap" between regular and special education as one that must be eliminated. This is not a suggestion that special education programs be eliminated or be subsumed by regular programs, for there will still be a need for trained special educators to deal with more severely handicapped students, and to serve as resource specialists or trainers for regular educators. What it does mean is that both groups of educators need certain core skills, especially for teaching students with mild handicapping conditions, and for individualizing instruction, that has previously been the primary domain of special educators. Even revising college curricula to include a single special education course for regular educators has typically been "fiercely resisted" (Martin, 1974; Vaac, 1978, p.42). Indeed, Vaac (1978) surveyed educational institutions accredited for teacher education and reported that while 83% of those surveyed agreed that teachers should take at least one special education course, "only 34% of elementary and 24% of secondary teacher preparation programs required courses in special education" (p.43).

Teacher Attitudes Toward Mainstreaming

Several authors (Baker & Gottlieb, 1980; Jones, Jamieson, Moulin & Towner, 1981; Kaufman & Hallahan, 1981; Raver, 1980; Rule, Killoran, Stowitschek, Innocenti, Striefel & Boswell, 1984; Salend & Johns, 1983; and Taylor, 1982) have noted that teacher attitudes are critical in determining if integration will work. Again, some surveys have revealed strong teacher opposition to mainstreaming (Gickling & Theobald, 1975; Hudson, Graham & Warner 1979) with concern expressed by teachers about the possibly detrimental effect of mainstreaming on the education of non-handicapped students (Hudson et al, 1979; Johnson, 1979). Jones, et al (1981) indicate, however, that much of the existing research on attitudinal change is methodologically flawed, and sound research is greatly needed. Horne (1979) found, in another literature review, that teachers had generally negative attitudes toward "special needs" students. The group of students "least preferred" by regular educators is the group labeled "educable mentally retarded" (EMR) (Shotel, Iano, & McGettigan, 1972). This finding was reconfirmed nearly a decade later by Vandivier & Vandivier (1981) who found that not only were students classified EMR viewed less favorably (compared to students identified as learning disabled, or emotionally disturbed), but that this held true regardless of the severity of the disability. In contrast, Stainback and Stainback (1982) and Stainback, Stainback, & Dedruck, (1983) found, that teacher attitudes toward even the severely retarded can be positively influenced by training. In addition, Stainback, Stainback, Strathe, & Dedrick, (1983) point out the need for "follow-up and continued support of teachers after initial changes are affected" (p. 208). The gist of the research and literature reviews is that teacher attitudes about mainstreaming are critical, and can be influenced with specific training addressed toward positively influencing them.

Inadequate Inservice Training Programs

The importance placed on developing new inservice programs highlights the need to upgrade existing skills and to develop new skills that meet the challenges inherent in mainstreaming. Zigmond & Sansone (1981) see inservice as one method for bringing about needed changes in knowledge, skills, and attitudes. Leyser et al (1982) state in their review that "a crucial need to offer teachers, as well as other school personnel, additional training in the form of courses, workshops, seminars, practica, and experiences to prepare them to work with handicapped students" exists (p.8). Zigmond & Sansone (1981) conclude that, "teacher behaviors change in very small steps, and that for these changes to occur teachers must have guided instruction, consultation, and on-going support" (p.110). Other authors also support the need for quality inservice training to help teachers develop the skills needed for mainstreaming (Crisci, 1981; Haring &

Billingsley, 1984; Peterson, 1983; Powers, 1983; Ringlaben & Price, 1981; Schwartz, 1984; Wilcox, 1977). In addition, inservice training has been identified as a specific way to influence teacher attitudes, (Leyser, Abrams, and Lipscomb, 1982; Williams & Algozzine, 1979).

Teacher Surveys Regarding Mainstreaming

The most direct, most persuasive, and most vital information about the perceived "competency gap" comes from teachers themselves. Crisci (1981) cites several authors (Byford, 1979; Dixon, Shaw, & Bensky, 1980; Paul & Warnock, 1980; & Perkins, 1979) to support her contention that much of the negative attitude about mainstreaming expressed by teachers, "stems from fear and lack of clarification of the responsibilities of and competencies needed by regular education teachers and special education personnel" (Crisci, 1981, p.175). Surveys of teachers indicate that many believe themselves to be inadequately prepared to deal with the broad range of student needs, problems, handicaps and challenges presented by mainstreaming (Crisci, 1981; Flynn, Gack & Sundean, 1978; Gickling & Theobald, 1975; Middleton, Morsink, & Cohen, 1979; Ringlaben & Price, 1981). Many teachers are not only cognizant of the gap, they are asking for additional training to upgrade existing competencies and to develop new ones (Alexander & Strain, 1978, Leyser, et al, 1982; Payne & Murray, 1974, Stephens & Braun, 1980, Vaac & Kirst, 1977).

Summary of Evidence Indicating A Competency Gap

In summary, the published literature supports the conclusions that presently a large discrepancy exists between current levels of teacher competency and the level needed for successful mainstreaming. Supporting evidence includes: (1) over half of state still do not require even a single course on exceptionalities; (2) teachers are inadaequately trained; (3) much effort has been devoted to restructuring teacher training programs to better train teachers and to imporive the quality of preservice training and (4) because negative attitudes held by regular teachers toward students who have handicaps affect successful mainstreaming negatively. Training programs must deal with the issue of attitude change. Surveys of teachers indicate that a considerable number believe themselves inadequately prepared to teach students who are even mildly handicapped. Teachers are not only aware of the competency gap, but many are requesting help to bridge it.

Closing the Competency Gap

Importance of Teacher Training

This competency gap is one of major proportions, one which will not be rectified by a two-hour inservice. Though many teachers are aware of the gap, often few local resources are available for obtaining help. Where are the "master-teachers", who are experienced in mainstreaming students with a broad range of disabilities? Where are the universities, who are ready to train practicing teachers in the competencies they need to successfully mainstream students with mild to severe handicaps. Where are the resource specialists who are able to come into the classroom to help teachers cope day to day with new and complex challenges? How do teachers get guided training under the tutelage of knowledgeable and experienced trainers who know how to mainstream, and who also know how to teach their colleagues effectively?

The importance of teacher training difficult to overstate. Peterson (1983) offers the following thought-provoking insights:

> No matter how progressive and innovative an idea, its use becomes limited when there are few practitioners who understand and can properly implement the idea . . . Well trained personnel are at the heart of a successful mainstreaming effort" (p.25).
>
> Personnel training is perhaps the most important component of successful mainstreaming. To enroll handicapped children in regular settings or normally developing children in special settings without adequate staff preparation is to invite failure for both staff and children. Individuals asked to assume responsibility for youngsters with whom they have limited or no experience and little formal preparation are themselves handicapped" (p.42).

Preliminary Steps in Closing the Competency Gap

Acknowledgement of the Problem - Narrowing or closing the gap between current and needed competencies requires at least three preliminary steps. First is the honest acknowledgement that a gap does indeed exist. This gap must be recognized not only by teachers (who may well have the least difficulty), but by principals, district and state administrators, educators in colleges of education, special education trainers, and legislators. Unless, and until, such individuals and groups frankly confront the reality that many teachers, administrators, and teacher trainers lack some of the skills essential for mainstreaming, the competency gap will not be closed.

Recognition of the Extent of Change Required - Second, there must be a recognition of the extent of change required by mainstreaming (Peterson, 1983). Including children with handicaps in a regular class, then proceeding to teach in exactly the same way, as if nothing had changed, will not work - not for the students (both those with and those without handicaps), and certainly not for the teacher. Mainstreaming is not merely including new students in the classroom; it entails the changes necessary to effectively meet the needs of all the students, including those with a variety of handicaps. Teachers, teacher trainers, and administrators who fail to recognize this fact are setting themselves and their students up for failure (Peterson, 1983). Some of the needed changes require learning new competencies; some changes consist of using already developed skills in new ways and in new contexts. Diamond (1979) suggests that mainstreaming "promises more than our current system can possibly deliver at this time" (p. 247). She suggests that if mainstreaming is to work there must be substantial changes in teaching practices, and that "modification of the mainstream is long overdue" (p. 250).

Most people are resistant to change, and teachers are no exception (Hall, Loucks, Rutherford, & Newlove, 1975). Even those teachers who favor the concept of mainstreaming will have to struggle with this aspect of their own humanness. Those who have, through many years of experience, developed a large repertoire of effective teaching methods will find that they, too, must make changes. But as Blackhurst (1982) points out, competent teachers, though they do have to make some changes, will still have an advantage. "From a competency standpoint, the most important factor is whether or not a person is a good, competent teacher in general. If a teacher is responsive to individual differences and can teach, then mainstreaming will be successful." (Blackhurst, 1982 p. 143).

Commitment to Change - Finally, after acknowledging the reality of the competency gap, and recognizing the extent of change entailed in mainstreaming, there must be a commitment to do something about it. This commitment must come from individual teachers. It is they who ultimately shoulder the day-to-day responsibility for educating students. But their individual and group commitment to close the competency gap can be rendered ineffectual if they are not supported by local and district administrators (Cochrane & Westling, 1977; Crisci, 1981; Johnson, 1979). Administrators' attitudes toward mainstreaming are critical, (Taylor, 1982) particularly those of principals' (Payne & Murray, 1974). If principals do not actively encourage teachers' efforts to secure training, if they do not facilitate interactions between regular and special education staff, provide necessary support services, and promote the concept of mainstreaming in the school and community, then teachers cannot effectively mainstream (Cochrane & Westling, 1977; Crisci, 1981; Johnson, 1979).

However, the commitment cannot stop with teachers and local administrators. State education associations, (Ganchow et al., 1984), play a significant role in determining the certification requirements that ultimately guide universities in establishing their teacher training programs. SEA's must develop guidelines that addreses current training needs, rather than continue promulgating outdated, inadequate guidelines which perpetuate dual systems of teacher training.

The universities must then extend their commitment to mainstreaming. It is to the colleges of education and departments of special education that many teachers and administrators will look when seeking additional training. If the universities are not fully meeting, in four academic years, the training needs of preservice teachers (AACTE, 1980; Behrens & Grosnick, 1978; Boyd & Jiggets, 1977; Corrigan, 1978; Kunzwiler, 1982, Leyser et al 1982; Maple, 1983; Masat & Schack, 1981; Middleton et al, 1979; Redden 1976; Sprinthal, 1978; Stamm, 1980; Vaac, 1978) one wonders what they have to offer practicing teachers. The knowledge and expertise is available to do much of the needed training, but it will necessitate change in how universities interact with teachers "in the field". It will require innovative approaches to training, such as those developed by funded Deans' Grants Projects (Behrens & Grosenick, 1978). Innovative programs have been developed and now need to be implemented.

Finally, concerned parents must organize themselves and make their concerns heard. Parents and consumer groups are the single most powerful group for advocating and producing changes in the education system. It is the parents who pay the taxes that are used to establish and maintain school programs. Parents, as voters, also elect the school board members and legislators. By uniting for a common cause they become a force which must be listened to and satisfied. Parent groups and other advocates for children who have handicaps are directly responsible for the initiation of federal programs such as PL. 94-142. Parents must be educated in what is necessary to make mainstreaming work.

Once committed, they can become staunch allies in the effort to secure essential changes.

The commitment of all the preceding individuals/institutions is essential, but the stark reality of tight budgets and limited funds for training presents a perennial problem. It is, at least in part, by legislative mandate that mainstreaming is occurring. It seems incumbent upon legislators to provide funding that will enable state and district school administrators to secure the training so vital for successful mainstreaming. To reiterate Peterson's (1983) observation, "No matter how progressive and innovative an idea, its use becomes limited when there are few practitioners who understand and can properly implement the idea . . . Well trained personnel are at the heart of a successful mainstreaming effort" (p. 25). Without tangible, dollars and cents support, from state and national legislators, teachers will indeed be "handicapped" (Peterson, 1983) in their efforts to effectively teach all the children for whom they have been given responsibility.

Reforming Pre-Service Training.

Preservice teacher education programs need to be reformatted. What follows here is a representative sample of ideas for reforming pre-service training programs. Readers interested in a more extensive coverage of this issue are referred to Grosenick & Reynolds (1978), and Sharp (1982).

Ryan (1980) advocates extending the length of pre-service programs by requiring a "fifth year" leading to a Master's degree before teachers would be allowed to teach. Stedman (1980) sees a two year master's program, with increased supervised practice, as a minimum qualification for conditional certification as a teacher. He then advocates an additional year of full-time teaching prior to permanent certification.

Some see inclusion of special education courses in regular educator's training as providing at least a partial solution (Ganschow et al., 1984; Vaac 1978). Others advocate meshing the training given to regular and special education teachers, at least certain "core" training for working with students who are mildly handicapped (Crisci, 1981; Haisley & Gilberts, 1978; Kunzweiler, 1982). Stainback and Stainback (1984) argue for elimination of the special and regular education dichotomy and creation of a "unified system of education based on individual student needs. This suggests that mainstreaming concepts not be taught as separate classes, but rather that they be incorporated into the fabric of every class in the teacher training program. "Modular instruction" models which have been implemented in some areas such as the Vermont public schools (Robie, Pierce, Burdett, 1979) and the University of Kansas (Haugh, 1978; Horner, 1977; Tucker & Horner, 1977; Wilcox, 1977). Zigmond and Sansone (1981) suggest that the day of the generalized teacher (e.g., a teacher who teaches everything in first grade), even in elementary schools, is past. They foresee subject-matter specialists (e.g., math) trained to teach students at all levels of disability.

Preservice training programs are restructured so that, (a) all competencies are taught until they are mastered, (b) elements in preservice training which do not teach competencies are deleted from the program, and (c) the competencies are organized and structured so they can be mastered in a four-year program.

Upgrading Inservice Training

There are currently thousands of practicing teachers who urgently need training, for they are the ones who are struggling right now in dealing with students they were never trained to teach (AACTE, 1980). These teachers need, and in many cases are requesting, inservice training. There is difficulty though, in deciding what competencies to emphasize in teacher inservice training.

Adams, Quintero, Killoran, Striefel, & Frede (1986) synthesized from the education literature some 23 areas of teacher competency essential for mainstreaming. Although these competencies were identified as essential for teaching mainstreamed students, most are also needed for high quality teaching of all students. While this listing of competency areas is certainly not exhaustive, it could be readily adapted into a basis for inservice training programs.

There appear to be three types of inservice training needed for practicing teachers. These are what might be called "general skills training", "student-specific training", and "problem-focused training". These three types are compared and contrasted in Table 1.

Insert Table 1 about here

All three types are needed to help teachers acquire the increasingly broad range of competencies required of educators. Unfortunately, it appears that much current inservice is limited to "problem-focused training".

A few 1 or 2 hour training sessions at the end of a school day are simply not sufficient to train teachers in anything but isolated fragments of the knowledge or performance aspects of competencies. When such training sessions (1 or 2 hours/day) are continued for extended periods of time many skills can be acquired. Individual reading of journal articles or books may suffice for certain knowledge components, but barely begins to address the performance aspects of the competencies. Teacher participation in 1 or 2 day workshops may help develop both the knowledge components and some of the performance components of the competencies. Workshops, however, suffer from lack of continuity, lack of follow-up, and fragmentation (i.e., learning only isolated fragments of the necessary body of knowledge). In addition, many of the performance aspects are too complex to teach in a purely didactic fashion. They require experiential learning, and must often be "hand-shaped" preferably in the individual teacher's classroom. Attempting to teach many of the performance components via lectures, readings, or discussions, would be equivalent to teaching piano or swimming by the same methods.

What is required to more adequately meet the needs of practicing teachers is an inservice training program that is comprehensive in scope, sequential, includes guided experience, provides practical and readily usable training, begins with a needs assessment, includes periodic assessment of skills to determine mastery, and allows for follow-up in teachers' own classrooms (Fredericks, 1977). A comprehensive plan should include (a) guided reading, (b) brief (1-2 hour) didactic training, (c) short workshops or mini-classes, (d) specially designed summer-quarter college classes, (e) supervised practica, (f) in-classroom demonstrations and shaping of teacher behaviors, (g) in-classroom consultation with specialists, and (h) consistent, long-term follow-up by trainers. Such a training program should be designed and jointly sponsored by university faculty from special education and regular education departments, and by practicing district teachers with experience in mainstreaming. It would necessitate closer interaction between university staff and teachers in the field. It should include built-in assessment procedures to evaluate efficacy. Teacher trainers would demonstrate in practice such competencies as task analysis, individualized instruction, behavior modification, and classroom management. The training should be designed to focus on those major areas which have not typically been a part of the training experience of most regular education teachers (e.g., attitudes, behavior modification skills, exceptional conditions). In addition, since trainers will be demonstrating individualized teaching, specific student needs for training could be identified, (the students, in this instance, being practicing teachers).

Systemic Changes Needed to Facilitate Mainstreaming

In order for teachers to effectively mainstream students, certain changes are needed within the larger system of which teachers are a critical part. Such changes should facilitate teacher's efforts for improving the education of all children with and without handicaps. If these needed systemic changes do not occur, teachers will themselves be handicapped in their attempts to implement training. The recommendations which follow outline, in a rather simplistic fashion, what would in actuality be complex processes. Directives such as "should", "ought", and "must" are used rather freely, but readers should recognize that these recommendations are ideals which may be difficult to effectuate in reality. They are offered as useful guidelines. The suggestions are not listed in order of importance or priority, the numbering is simply to aid readability. (A more detailed explication of these systemic changes is found in Adams, Striefel, Quintero, Killoran, 1985).

1. Teacher pre-service programs should be revised to incorporate the competencies needed for mainstreaming.
2. State education agencies (SEA's) must upgrade teacher certification requirements to guide universities in developing preservice training programs.
3. State and national teacher education associations must acknowledge that: (a) mainstreaming is a reality for today's educator; and (b) there is a significant need for high-quality, comprehensive, and practical teacher training, both pre-service and inservice.
4. State and national teacher associations (in conjunction with appropriate advocacy groups) must organize task-forces and lobbies to secure funding for teacher pre-service and inservice training.
5. Comprehensive inservice training programs,focusing on teacher competencies needed for mainstreaming, must be developed and implemented.
6. District administrators must actively support and facilitate mainstreaming.
7. There must be an effort made to identify the competencies needed by administrators in order for effective mainstreaming to occur. and to provide training for administrators.

8. Mainstreaming must be seen as an ongoing process rather than a discrete event.
9. The roles of special educators must be redefined.
10. Administrators and teachers must identify and implement strategies that increase teacher time for the individual needs of all students (including those who are mainstreamed).
11. Efforts for early identification of children who are handicapped should be promoted, and high-quality early intervention services (pre-school) must be legislatively mandated and adequately funded.
12. Procedures and materials must be developed for preparing parents of children with and without handicaps for mainstreaming.
13. Procedures and materials must be developed for preparing students with and without handicaps for mainstreaming.
14. Procedures and materials must be developed for the preparation and ongoing training of support staff who interact with children who are handicapped.
15. Procedures and materials must be developed for the training and effective utilization of para-professionals, volunteers, and peer tutors who work with students being mainstreamed.

Conclusion and Recommendations

A significant "competency gap" currently exists between the knowledge and skills teachers should have, and those they actually do have. This gap results from increasing demands placed on teachers, brought about in part by the passage of P.L. 94-142. Pre-service and inservice training programs for teachers have not yet changed and grown sufficiently to prepare educators for the challenges that confront them as they teach students who are substantially handicapped. These challenges can only increase as pressure increases to individualize educational programs for all children.

Teachers, administrators, state education associations, university faculty, and state and national legislators must all be involved in the effort to reduce the competency gap. Pre-service training programs must reflect the reality that mainstreaming necessitates changes in traditional approaches to teaching. Inservice training must be comprehensive rather than piecemeal, must include in-classroom shaping of teacher behaviors, in-classroom consultation with specialists, and long-term follow-up. All of this will, obviously, be possible only with adequate funding. The authors recognize that this ideal may never be completely achieved in reality. But the attempt to define "the way it ought to be" may serve as a guide in attempts to develop more adequate training programs.

This paper strongly advocates that educators at all levels acknowledge the unpleasant reality that they have been inadequately prepared to meet the increasing demands that are expected of teachers. Having acknowledged the reality of the problem, teachers must then confront the true causal issue at it's root. Pre-service training does not prepare teachers adequately for the new challenges of teaching, and current inservice training is too limited in both quantity and scope to bridge the competency gap.

It will be largely due to a team effort that the existing competency gap is narrowed and eventually eliminated. Legislators, parents, students, administrators, and teachers must all work together for the common goal of improved education for all children, both those with and those without handicaps. Teachers and principals must assume a leading role in this effort, for it is they who are ultimately confronted with the daily challenges of mainstreaming.

Footnotes

[1] If perchance any of the readers do know of such a training program, please write to the authors care of the Developmental Center for Handicapped Persons, UMC 68, Utah State University, Logan, UT 84322.

Author Notes

This publication was supported by Grant No. 009401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education and Grant No. G008430088 of the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

Table 1

THREE TYPES OF INSERVICE TRAINING FOR MAINSTREAMING

GENERAL SKILLS TRAINING (ongoing)	CHILD-FOCUSED TRAINING (pre-mainstreaming)	PROBLEM-FOCUSED TRAINING (post-placement)
a. for all teachers	a. for receiving teacher	a. for any teacher needing help
b. scheduled on a regular basis in response to identified areas for skill development	b. occurs prior to mainstreaming a specific child	b. occurs as needed in response to problem situations
c. extended, long-range (training time measured in weeks or months)	c. short-term, intensive (training time measured in hours or days)	c. short-term, limited (training time measured in minutes or hours)
d. skill centered	d. skill centered	d. problem centered
e. general applicability to many students	e. student specific	e. situation specific
f. aims at over-all upgrading and development of teacher expertise	f. focused on special training necessary for working with a particular student	f. focused on particular problem and situation
g. planned in advance, organized, sequential, responsive to over-all long-range needs	g. planned in advance, organized, responsive to specific anticipated short-range needs	g. planned "on the spot", spontaneous, responsive to immediate needs
h. spans entire teaching career	h. time-limited	h. time-limited
i. assessed via "Teacher Needs Assessment"	i. assessed via MESA	i. teacher self-assessed via "Request for Assistance"
example: A number of teachers at a school all desire training in methods for evaluating student learning -- a series of workshops, over a several month period, are offered on this topic.	example: A teacher needs training in how to recognize and manage occasional seizures in an incoming student, and also how to prepare the other students in the class to respond to a seizure.	example: The students in a class are overly solicitous of a student in a wheelchair, to the point that the student is developing some "helpless" behaviors that are of concern to the teacher.

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A Review and Synthesis of Teacher Competencies Necessary for Effective Mainstreaming

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This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

Running Head: REVIEW AND SYNTHESIS OF TEACHER COMPETENCIES

Key Words: Mainstreaming, Teacher Competencies, Teacher Training, Inservice Training

This product was developed by the
Functional Mainstreaming for Success (FMS) Project

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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Abstract

Thirty-two sources are reviewed which deal with the teacher competencies needed by regular teachers for successful mainstreaming. These sources include pragmatic summaries of personal experiences, comparison of teachers' and professors' views on teacher competencies, a dissertation based on teachers' reports of successful and unsuccessful mainstreaming experiences, competencies judged essential for teacher certification, and a review of Deans' Grant Projects. From these diverse sources, twenty major competency areas are identified by at least one-fourth of the sources as being necessary for regular teachers. Three additional teacher competency areas are identified which are mandated by the long-term needs of students who are handicapped. The twenty three competencies discussed are not only necessary for mainstreaming but are, by and large, essential for effective teaching of all students.

The parents of a child who is handicapped generally accept the reality that their child may never be able to do all the things other children can do. Yet they still want their child to have the opportunities other children have to learn about the world, to make friends, to develop talents and abilities, and to live as full a life as possible, despite the limitations of a handicapping condition. Attending school gives children opportunities and experiences that parents are not able to provide by themselves. Parents are certainly aware that working with their child may require extra time, planning, and patience; but they are hopeful that teachers and other professionals will care enough to give that extra effort. Far too often, however, children with handicaps are mainstreamed from special education into regular education classes where the teachers, no matter how much they care, have not been adequately trained to work with a child who is handicapped (Crisci, 1981).

Definition

Mainstreaming is a concept that appears to be used differently by different authors, school districts, and state education agencies. The following definition evolved in the attempt to develop a conceptualization of mainstreaming that was concise, but was also sufficiently comprehensive to highlight all the major issues involved in effective mainstreaming (Striefel, Killoran, Quintero, & Adams, 1985).

"Successful mainstreaming is a continuing process, rather than a discrete event. It includes the instructional and social integration of students who have handicaps into educational and community environments with students who do not have handicaps. Successful mainstreaming must:

1. Be based on the decision of the IEP team that a student can potentially benefit from placement with students who are not handicapped;
2. Provide a continuum of least restrictive placement options which range from brief periods of limited interactions, to full-time participation in a regular classroom;
3. Specify the responsibility of students, parents, regular and special education teachers, administrators, and support personnel;
4. Include pre-placement preparation, post-placement support, and continued training for students with and without handicaps, their parents, teachers, administrators, and support personnel;
5. Maximize appropriate interactions between students with and without handicaps through structured activities (such as peer tutoring or buddy systems) and social skills training, as appropriate to specific situations and abilities.

6. Provide functional, age-appropriate activities that prepare the student with handicaps to function in current and future community environments;
7. And occur without major long-term disruption of ongoing educational activities, or other detriment to any student in the mainstream setting."

The Problem

If teachers are to be effective in their efforts to teach mainstreamed students, they must be well trained. However, a monograph published by the American Association of Colleges for Teacher Education states emphatically that current teacher training is inadequate.

> "It can be stated with confidence that the goals of Public Law 94-142 will be realized only if the quality of teacher preparation and professional service in the schools can be improved. High priority must be given to substantial if not massive upgrading and retooling of the programs that prepare teaches for entry to the profession and facilitate their continuing professional development through a lifetime of service.
>
> Teacher preparation in America has never been optimal; it always has been minimal. The level of professional expertise developed in preparation programs is far below that needed for effectiveness, even in the most favorable teaching situations. It is disastrously inadequate for meeting the challenges of a delivery system in which all children, exceptional or otherwise, share school learning environments with the nonhandicapped school population". (A Common Body of Practice for Teachers: The Challenge of PL 94-142 to Teacher Education, 1980, p.4).

There has been considerable effort expended in the attempt to identify the specific teacher competencies necessary to effectively teach mainstreamed students. While questions have been raised about the merit of competency-based training and certification programs (Maple, 1983), the ongoing attempt to identify specific competencies that promote effective teaching for all students, with or without handicaps, seems essential.

Competencies can be grouped in two broad categories: Knowledge competencies, and performance competencies (Horner, 1977; Wilcox 1977). Knowledge competencies encompass the academic and intellectual components of teaching. In a sense, the knowledge competencies are prerequisite to, and underlie the acquisition of performance competencies. These latter include the skills and behaviors of the teacher. Mastery of knowledge competencies could be evidenced in written form. Performance competencies must actually be demonstrated in the classroom. Both types of competencies are needed for effective teaching. Indeed, one might suggest that any competency has both knowledge and performance aspects.

While literally thousands of teacher competencies have been discussed in the education literature, almost none has been adequately validated (Wilcox, 1977). In an ERIC computer search on 12 December 1984 the key word "mainstreaming" listed 3267 entries; "competency based teacher programs" had 2506 entries, and "validated programs" showed 429 entries. Combining all three descriptors, however, came up with a net yield of zero. In essence, there are as yet no validated programs for training teachers in the competencies necessary for effective teaching of mainstreamed students. However, Wilcox (1977) noted that "training needs are too great to advocate that development be delayed until any single approach has undergone extensive replication and validation: (Wilcox, 1977, p.419). Regardless of teachers' readiness, students with a wide range of handicaps are already in the schools, and the numbers served in regular classrooms continues to increase.

If teachers are to be adequately trained, the competencies that are necessary to become a good teacher must be identified. A number of attempts have been made, and the results are scattered throughout the education literature (see appendix A). As might be expected, different authors identify different competencies. This paper represents an attempt to synthesize the research, ideas, and opinions that exist in the education literature on what competencies are necessary for teachers to effectively teach students who are severely handicapped.

Procedures for Identifying Competencies

Numerous approaches have been attempted by authors interested in specifying teacher competencies. These include pragmatic summaries of personal experiences (Schulz and Turnbull, 1983), soliciting and comparing teachers' and professors' views of essential competencies (Goodspeed & Celotta, 1982), having teachers identify specific successful and unsuccessful mainstreaming experiences (Redden & Blackhurst, 1978) and reviews of Deans' Grant Projects (Rader, 1978). Some authors have identified hundreds of individual competencies (e.g. Goldhammer, Rader, & Reuschlein, 1977, 464 competencies; Haring, 1978, 550 competencies), but all have synthesized those very detailed listings into general "clusters", "areas", or "functions". For practicality reasons, only those general areas identified as important are listed in this review.

Three thorough and comprehensive studies were: (1) a doctoral dissertation by Redden (1976) based on specific teacher examples of effective and ineffective mainstreaming (Redden & Blackhurst, 1978); (2) a synthesis of competency lists submitted from nationwide Deans' Grant Projects that were developing pre-service programs for regular classroom teachers (Rader, 1978); and (3) A Common Body of Practice for Teachers (1980), produced by the national Support Systems Project, University of Minnesota, under the direction of Maynard C. Reynolds. From these three studies a nucleus of competency clusters were formed. Other articles and studies which were reviewed have been categorized within these clusters.

The competency areas are listed using the wording of the original sources. Some competencies were published without descriptors, and in those cases where the wording was not the same as in the "nucleus" papers, a judgement was made about the meaning of the competency described, and it was assigned where it seemed to best fit (e.g., Haring, 1978, lists one competency area as, "engineering physical properties of a classroom". This was judged by as compatible in its intent with Rader's, 1978, competency area of "Learning Environment" and was consequently listed there). Several sources listed competency areas that either were not listed by others, or were so lacking in descriptors that they could not be placed in a similar category - all such competencies were listed separately. Sources listed as concurring that a specific competency is necessary either explicitly specified that competency, or were adjudged to be identifying the same or a very similar competency area.

In reviewing this initial summary several areas overlapped substantially and were subsumed within another topic. (e.g., the area "Understanding Students" was mentioned by only one author. It was adjudged to be subsumed in the other topical areas of "Nature of the Handicaps", "Attitudes", "Learning Styles", "Communication", "Teacher-Parent-Student Relationships", and "Student-Student Relationships").

This initial process resulted in a somewhat lengthy list of competency areas. Some of these were identified as important by many sources; some were advocated only in a single source (see Appendix A for a complete listing of the sources reviewed). It is interesting to note that not a single competency area was deemed essential by unanimous agreement of all 32 sources.

To further synthesize the list of competencies, those areas not supported by at least one-fourth of the sources reviewed were deleted. The one-fourth cutoff point was chosen arbitrarily and could have been higher or lower. Deleting the competencies via the cutoff score resulted in a list of 20 competency areas that had some degree of consensus as to their importance.

However, a conspicuous absence of certain teacher competencies was apparent in reviewing this list. There are three major competency areas that are virtually demanded by the long term needs of students who are severely or even moderately handicapped, especially if their handicapping condition affects cognitive abilities. These teacher competency areas include teaching fundamental skills (this was mentioned by one of the "core" sources, but not supported by one fourth of them); teaching communication skills, and teaching social skills (see Adams, Quintero, Striefel, & Killoran, 1985, for an extended discussion of the rationale for including these critical competencies). Adding these three competency areas to the list synthesized from the literature resulted in 23 major areas of teacher competency judged essential for the effective teaching of mainstreamed students.

Listing of Teacher Competencies

The final listing of teacher competencies is not as definitive as one might wish. A certain amount of unavoidable overlap exists. Some competencies are reasonably seen as subsets of other competency areas. Several were not generally identified as important by teachers, but are essential in meeting student's long-term needs. There is, by necessity, a degree of subjectivity in the judgments made in this manuscript, although the authors have tried to avoid misrepresenting anyone's view. Given these qualifiers, however, the following list represents a comprehensive synthesis of current research and expert opinion about the teacher competencies necessary for successful mainstreaming.

1. Prepare Class for Mainstreaming
    a. Conduct puppet shows, discussions, and other class preparation activities;
    b. Discuss difficulties specific to the student to be mainstreamed;
    c. Conduct discussions on recognizing and accepting similarities and differences between people.

2. Assess Needs and Set Goals
    a. Understand the tests commonly used in your school;
    b. Know how they are administered;
    c. Interpret the results obtained;
    d. Use the results to set goals for the student.
3. Evaluate Learning
    a. Understand differences between criterion and norm-referenced tests;
    b. Collect data on student progress to use for: measuring progress toward goals, feedback for the student, feedback for the parents;
    c. Use data as a basis to change goals, as needed.
4. Curriculum
    a. Have general knowledge of curricula used in your school;
    b. Keep current on new curricula and materials appropriate for grade level(s) you teach;
    c. Adapt existing curricula to meet the IEP goals of individual students.
5. Parent-Teacher Relationships
    a. Understand the parent involvement mandated by Public Law 94-142;
    b. Establish and maintain regular, positive communications with parents;

- c. Involve parents in the classroom or program when appropriate;
- d. Know referral procedures for other services family may need (e.g., therapy, welfare).

6. Teaching Fundamental Skills
   - a. Know methods for training academic basics;
   - b. Know methods for teaching non-academic survival skills (e.g., health, safety, leisure time, problem-solving) appropriate to your grade level;
   - c. Understand the specific skills needed by a particular mainstreamed student, and how to teach those skills.
7. Exceptional Conditions
   - a. Develop basic understanding of handicapping conditions;
   - b. Understand the adaptations needed to work with students who are handicapped;
   - c. Acquire a thorough understanding of the handicapping conditions of any student in your class.
8. Professional Consultation
   - a. Know how to access specialists for consultation about students with handicaps;
   - b. Collect information to document concerns in special areas;
   - c. Accept and use constructive feedback from consultants.

9. Nature of Mainstreaming
   a. Understand the district/school definition and rationale for mainstreaming;
   b. Understand the educational guidelines mandated by Public Law 94-142.
10. Student-Student Relationships
    a. Develop skill in structuring and teaching positive student-student interactions;
    b. Use peer buddies and peer tutors;
    c. Demonstrate equity when dealing with all students;
    d. Group students in ways which promote social interactions.
11. Attitudes
    a. Self: Recognize and overcome personal biases and stereotypic, preconceived ideas of students with handicaps and of mainstreaming. Demonstrate knowledge of how personal attitudes can affect teacher behavior and student learning;
    b. Other adults: Provide accurate information to help modify misconceptions held by others (parents, colleagues, etc.);
    c. Students: Promote acceptance of the student with handicaps by: conducting discussions, facilitating interactions, noting difficulties and modelling appropriate behaviors..

12. Resource and Support Systems

    a. Know how to access and use agencies, programs, and individuals in the school or district who can serve as resources.

13. Learning Environment

    a. Arrange a classroom or other setting so that students with handicaps can have both complete and safe access;

    b. Establish a positive climate for learning by modelling acceptance of individual differences, and encouraging each student's best effort.

14. Interpersonal Communication

    a. Demonstrate competence in oral and written communication skills;

    b. Know one's personal style of communication (e.g., personal responses to stress, feedback, compliments);

    c. Know how to adapt information for different audiences (e.g., parents, teachers, general community).

15. Teaching Communication Skills

    a. Have sufficient knowledge of language skills at the age level which you teach to be able to note strengths and deficits in individual student's expressive and receptive communication;

    b. Teach language skills in task-analyzed, generalizable steps;

c. Become familiar with special communication needs of a mainstreamed student (e.g., manual signs).

16. Administration

a. Function as a supervisor of aides and volunteers, as well as students;

b. Manage and coordinate schedules and programs of specialists and consultants;

c. Keep school administrator informed of ongoing activities, problems, successes;

d. Involve administrator by seeking feedback early, as well as by asking for resources when needed.

17. Individualized Teaching

a. Show skill in assessing individual needs and in adapting instruction to the individual;

b. Show skill in collection progress data;

c. Know methods for individualizing instruction within groups.

18. Class Management

a. Organize and control classrooms to facilitate learning;

b. Demonstrate skill in group alerting, guiding transitions, arranging/organizing materials, crisis intervention, positive reinforcement of individuals and groups.

19. Teaching Techniques

   a. Understand and use appropriate teaching techniques for group and individual instruction;
   b. Show ability and willingness to be flexible and to change procedures to accommodate individual students.

20. Legal Issues
   a. Understand the legal implications of P.L. 94-142 for educational services in public schools;
   b. Know rights of persons with handicaps;
   c. Understand school/district policies for mainstreaming;
   d. Understand "due process".

21. Behavior Modification
   a. Identify problem behaviors precisely;
   b. Identify desirable behaviors;
   c. Know how to identify and use effective reinforcers;
   d. Monitor changes in behavior.

22. Task Analysis Skills
   a. Understand the rationale for task analysis;
   b. Demonstrate ability to task analyze a variety of necessary student skills;
   c. Consolidate discrete tasks into total desired behavior;
   d. Demonstrate ability to collect progress data.

23. Teaching Social Skills
   a. Know the social skills expected of students at the grade level you teach;

b. Know how to identify strengths and deficits in social skills for students that you teach;

c. Know how to systematically train social skills using curricula and/or incidental opportunities.

Discussion of Competencies

It was previously noted that the 23 competencies are general statements representing fairly broad competency areas. Some are of much greater specificity (e.g., task analysis), while others are almost sweeping in scope (e.g., curriculum, class management). The final list of competency statements contains substantial overlap, redundancy, and varying specificity for several reasons. First is simply the effort to be true to the working and apparent intent of the original sources. Second, reducing the original list to the final one necessitated numerous judgments. There was some concern that much more change would result in excessive editorializing resulting in certain essential issues being obscured. (For instance, the study by Fredericks, et al., 1977, is one of the best validated ones the authors encountered. The results of that investigation suggest that two primary factors accounted for student gains in the sample studied: percentage of programs task-analyzed, and the number of minutes of instruction per day. The latter point was deemed subsumed by "class management", but was important enough that it was highlighted so it would remain visible). third, it was judged that a certain degree of overlap was acceptable in order to give full weight to the importance of certain competency areas. (For instance, "Legal Issues" is actually mentioned as a sub-component of the "nature of mainstreaming". It could have been subsumed in the latter area, but this would have failed to convey the emphasis given this particular issue by the sources reviewed, one of whom listed it as an often neglected competency that is critical for teachers; Haisley & Gilberts, 1978).

It should be noted, however, that none of the competency areas are precise enough that they could be used, as is, for training purposes. These general statements of necessary competencies must be operationalized into specific goals, objectives, and skills. Volumes have been written about such competencies as classroom management, behavior modification, and teaching techniques. Trainers who use the teacher competencies identified in this paper as guidelines for training will still find it necessary to refine them. Trainers will find needs assessments essential in identifying the strengths of those teachers they are training, and in specifying the knowledge and skills that need to be trained and upgraded.

One might ask which of these competency areas is on the list solely because of the initiation of mainstreaming? That is, if PL 94-142 had not been passed, and if large scale efforts to mainstream students with handicaps were not being made, which of the competencies could be deleted from the list? It turns out that only four competency areas seem primarily related to mainstreaming: prepare class for mainstreaming, exceptional conditions, the nature of mainstreaming, and legal issues. Of these, the latter three are largely knowledge or information competencies that are relatively easy to acquire. The nineteen remaining competencies are related to teaching all students. This reaffirms Blackhurst's (1982) observation that the teacher competencies required for mainstreaming are equally applicable to teaching students who are not handicapped.

Conclusion

There is both consensus and overlap in the literature as to what major areas of teacher competency are needed to conduct mainstreaming. As was previously noted, there presently are no mainstreaming teacher competencies that have had adequate empirical validation. However, it seems appropriate to reiterate Wilson's observation that, "training needs are too great to advocate that development be delayed until any single approach has undergone extensive replication and validation" (Wilcox, 1977, p 419). The synthesis of competency areas enumerated above represents the opinions, experience, expertise, and research of a broad cross-range of people, including regular teachers with mainstreaming experience, school principals, special education teachers, university teacher-education faculty, district and state directors of special education programs, recent teacher-training graduates, and experienced social scientists. Many thousands of individuals are represented by the research studies. While none of this demonstrates validation (except for face validity, which seems at least adequate) it does provide a beginning point for researchers, for teachers, and for trainers.

In concluding this section on teacher competencies, some observations by Blackhurst (1982) seem apropos. After reviewing several studies on mainstreaming competencies, he concludes that the teacher competencies needed for effective mainstreaming are virtually the same, with just a few exceptions, as those needed for effective teaching. "The great majority of the competencies identified are competencies that good teachers should possess, regardless of whether or not they are teaching mainstreamed students . . . There appear to be few, if any, competencies that relate to specific teaching strategies with handicapped students that are not equally as valid for use with non-handicapped students" (Blackhurst, 1982, pp 142-3).

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Table 1

Instrument	Purpose	Description	Population	Strengths & Weaknesses
SBS (Walker)	To assess teachers behavioral demand levels in the mainstream setting. To use as a measure for matching teacher behavioral expectations and student performance. To measure degree of teacher's technical assistance needs.	107 items. 3 selections with rating scale. -description of appropriate behavior -S^1 maladaptive behaviors. -measure technical assistance needs.	Teachers	-Good rating scale -Just social behavior measure.
Personal attributes inventory--Kaufmann (Affective component) (Parish, Eads, Reece, Piscitello, 1977)	To measure affect by noting number of adj. selected as characterisitic of target population.	Select from list of adj. those which best describe target population.	Teacher	
Semantic Differential Paradigm - Hughes, Wallace, & Kaufmann (Affective component)	To measure affect by noting rating of labels.	6 labels commonly applied to handicapped children in school's		
Social Distance Scale (Behavioral component) Harasymiw, Horre, Lewis, (1979)	To examine what type of social relationship he/she would be willing to enter into with a particular handicapped individual.		Elementary & secondary teachers	
Behavioral Preference Rankings (Behavioral component)	To examine which handicaps a teacher prefers to teach.		Elementary & secondary	Use of labels increases chance for multiple interpretations.
Attitudes toward handicapped individuals Lazar	To measure acceptance, understanding, & perception of differences of handicapped persons.		Teachers (students teachers & graduate student sample)	

Table 2

Instrument	Purpose	Description	Population	Strengths & Weaknesses
Knowledge Measure	To assess student comptentencies in various aspects of assessment and instruction of exceptional students.	40 multiple choice	College students	Includes normal & gifted
Measure of willingness to accept exceptional students in regular class (Green & Rock)	To measure regular teachers' willingness to accept exceptional students.	6 items	Regular classroom teachers	Few items
Regular Education Teachers' Options & Perceptions of Mainstreaming Questionnaire (Ringlaben & Price)	To assess regular classroom teachers' perceptions of mainstreaming.	22 item questionnaire I-background information IL-Likert scale (3 or 5 pt.) indicate opinions & perception about knowledge & preparation for mainstreaming, perception of how mainstreaming works in their teaching of both students.	Teachers	Fails to pin point reasons why mainstreaming is perceived to be failing by some.
Disturbing Behavior Checklist (Algozzine) (Affective comp)	For teachers to indicate the distrubingness of certain behaviors characteristic of emotionally disturbed students.		Teachers	
Personal Attributes Inventory	To measure affect by noting number of adjective characteristic of target population.		Regular Teachers	
Hierarchy of Attitudes Towards Categories of Handicapped	To prove the usefullness of ordering theory for building a theory concerning the interrelated network of attitudes.	Booklet form. 15 minute test time. Scale (1) 2 st. with label was deleted & blank included (11 labels listed). with 6 pt. Likert agree or disagree. (2) operationalized definition 2 attitude st. on integration in community & school (LRE)	College student sample	-Operationalized labels -Includes gifted -Theory focused

Table 3

Instrument	Purpose	Description	Population	Strengths & Weaknesses
Correlates of Child Handicapping Conditions (Walker, Rankin)	To assess teacher tolerance levels in relation to conditions & characteristics associated with handicapping conditions	24 items with instructions to check items cause him to resist placement of child with those conditions. With technical assistance could change be made and placement made.	Sp. Ed. Teachers	Examines specific areas in need of technical assistance
Child Change Data & Teacher Change Data (Salend & Johns)	-To document child's progress teachers and teacher change toward mainstreaming. -To allow teachers to overcome feelings of doubt by working with exceptional students & seeing results.	Unobtrusively recorded teacher mainstream behaviors & academic & social changes in child over 22 weeks (5 baseline, 17 intervention) by counselor with behavior management.	Teachers	-Good for later on--technical assistance goal. -Too time consuming for initial assessment.
Brophy-Good-Child Dyadic Interaction System	To compare interaction patterns of regular elementary teachers with high achieving students, learning disabled students, behaviorally handicapped students.	-Observation data collection. 5 categories in which to record teachers contacts with individual students in settings involving work, procedure, & behavior interactions.	Regular elementary teachers	Does not address need for matching.

Table 4

Instrument	Purpose	Description	Population Addressed	Strengths & Weaknesses
Essential Teacher Competencies for Mainstreaming Handicapped Children Questionnaire (Interrelated Teacher Education Project) (Behavioral Component)	-To measure subjects perceived skill compentence in training areas. -To assess attitudes toward mainstreaming & determine appropriate intervention if necessary.		Student teachers	Examines areas in need of technical assistance
Attitudes Toward Disabled Persons (Cognitive Component) (Baker) (Yucker, Block, & Young, 1966)	To measure extent to which respondent believes D.P. are same as normal individuals or different & need treatment	8 subscales representing separate attitude toward particular aspcect of mainstreaming.	Student Teachers	
Attitudes Toward Mainstreaming Scale (Larrivee & Cook)	To assess classroom organization & management of exceptional children.	30 items Likert Scale 1-5	Student teachers & graduate students (sample)	-Other subscales necessary to assess other facets of mainstreaming. -Too small sample.
Mainstreaming Opinionaire (Schmelkin)	To examine effects of mainstreaming on development of handicapped children, normal children, & teachers.	30 item with Likert scale 2 subscales (15 items each) Academic costs of mainstreaming Socio-emotional costs of segregation.	Teachers	Most teachers surveyed had at least 1 handicapped student before -Use 3 labeled
Mainstreaming Oppionionaire (Reynolds, Reynolds-Martin)	To examine attitudes toward mainstreaming and determine correlation with teacher variables.	29 st. of attitudes in 4 clusters. 4 pt. Likert scale Clusters teachers perceptions of: Role of EMR student Teacher of EMR student Regular Teacher Attitudes toward mainstreaming Compared with teacher variables (age, level of preparation, length of experience, prior experience with mainstreamed children)	Elementary teacher 1/2 with experience, 1/2 without experience.	

MINIMUM LEVELS OF TRAINING

Key: X=Minimum necessary for all teachers
o=Necessary for teachers who must mainstream without ready access to specialists and consultants

TEACHER COMPETENCY AREAS (Regular Education)	NON-CRITIQUED DIDACTIC TRAINING		CRITIQUED (crtq) DIDACTIC TRAINING			SKILL BUILDING WITH FEEDBACK				DIRECTED INDIVIDUAL SHAPING (One or more of these)			LEVEL OF MAINSTREAMING AT WHICH MINIMUM LEVEL OF TRAINING IS NEEDED
	Class/ workshop	Reading	Reading		Workshop or class	Observe demo		Self-practice		Consultation	Crtq video tape	In-Class trainer	
			self-test	crtq test	crtq test/ exercise	role play	real	role play	real				
1.Prepare Class for Mainstreaming	X	X	X	X	X								1 - 5
2.Assess Needs and Set Goals	X	X	X	X	X	o	o	o	o	o			2 - 5
3.Evaluate Learning	X	X	X	X	X	o	o	o	o	o			3 - 5
4.Curriculum	X	X	X	X	X								3 - 5
5.Teacher-Parent Relationship	X	X	X	X	X	X	X	X	X				2 - 5
6.Teaching Fundamental Skills	X	X	X	X	X	X	X	X	X	X	o	o	2 - 5
7.Exceptional Conditions	X	X											1 - 5
8.Professional Consultation	X	X	X	X	X	X	X	X	X				2 - 5
9.The Nature of Mainstreaming	X	X											1 - 5

MINIMUM LEVELS OF TRAINING (cont'd.)

Key: X=Minimum necessary for all teachers
o=Necessary for teachers who must mainstream without ready access to specialists and consultants

TEACHER COMPETENCY AREAS (Regular Education)	NON-CRITIQUED DIDACTIC TRAINING		CRITIQUED (crtq) DIDACTIC TRAINING			SKILL BUILDING WITH FEEDBACK				DIRECTED INDIVIDUAL SHAPING (One or more of these)			LEVEL OF MAINSTREAMING AT WHICH MINIMUM LEVEL OF TRAINING IS NEEDED
	Class/ workshop	Reading	Reading		Workshop or class	Observe demo		Self-practice		Consultation	Crtq video tape	In-Class trainer	
			self-test	crtq test	crtq test/ exercise	role play	real	role play	real				
10. Student-Student Relationships	x	x	x	x	x	x	x	x	x	x			1 - 5
11. Attitudes	x	x	x	x	x								1 - 5
12. Resource and Support Systems	x	x	x	x	x	o	o	o	o	o			2 - 5
13. Learning Environment	x	x	x	x	x	x	x	x	x	x	x		2 - 5
14. Interpersonal Communication	x	x	x	x	x	x	x	x	x				2 - 5
15. Teaching Communication Skills	x	x	x	x	x	x	x	x	x	o	o	o	2 - 5
16. Administration	x	x	x	x	x								3 - 5
17. Individualized Teaching	x	x	x	x	x	o	o	o	o	o			2 - 5
18. Class Management	x	x	x	x	x	x	x	x	x	x	x		3 - 5
19. Teaching Techniques	x	x	x	x	x	x	x	x	x	x	x		3 - 5

MINIMUM LEVELS OF TRAINING (cont'd.)

Key: X=Minimum necessary for all teachers
o=Necessary for teachers who must mainstream without ready access to specialists and consultants

TEACHER COMPETENCY AREAS (Regular Education)	NON-CRITIQUED DIDACTIC TRAINING		CRITIQUED (crtq) DIDACTIC TRAINING			SKILL BUILDING WITH FEEDBACK				DIRECTED INDIVIDUAL SHAPING (One or more of these)			LEVEL OF MAINSTREAMING AT WHICH MINIMUM LEVEL OF TRAINING IS NEEDED
	Class/ workshop	Reading	Reading		Workshop or class	Observe demo		Self-practice		Consultation	Crtq video tape	In-Class trainer	
			self-test	crtq test	crtq test/ exercise	role play	real	role play	real				
20. Legal Issues	X	X											1 - 5
21. Behavior Modification	X	X	X	X	X	X	X	X	X	X	X	X	2 - 5
22. Task Analysis Skills	X	X	X	X	X	o	o	o	o	o			3 - 5
23. Teaching Social Skills	X	X	X	X	X	X	X	X	X	X	o	o	2 - 5

MINIMUM LEVELS OF TRAINING (cont'd.)

Key: X=Minimum necessary for all teachers
o=Necessary for teachers who must mainstream without ready access to specialists and consultants

TEACHER COMPETENCY AREAS (Regular Education)	NON-CRITIQUED DIDACTIC TRAINING		CRITIQUED (crtq) DIDACTIC TRAINING			SKILL BUILDING WITH FEEDBACK				DIRECTED INDIVIDUAL SHAPING (One or more of these)			LEVEL OF MAINSTREAMING AT WHICH MINIMUM LEVEL OF TRAINING IS NEEDED
	Class/workshop	Reading	Reading		Workshop or class	Observe demo		Self-practice		Consultation	Crtq video tape	In-Class trainer	
			self-test	crtq test	crtq test/exercise	role play	real	role play	real				
20. Legal Issues	X	X											1 - 5
21. Behavior Modification	X	X	X	X	X	X	X	X	X	X	X	X	2 - 5
22. Task Analysis Skills	X	X	X	X	X	o	o	o	o	o			3 - 5
23. Teaching Social Skills	X	X	X	X	X	X	X	X	X	X	o	o	2 - 5

~~Goal 1~~
File Name: Teach-Atti.1
Draft 12
January 7, 1987

TEACHER ATTITUDES TOWARD MAINSTREAMING:
A LITERATURE REVIEW

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Running Head: TEACHER ATTITUDES TOWARD MAINSTREAMING

**This product was developed by the
Functional Mainstreaming for Success (FMS) Project**

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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Abstract

Teacher Attitudes Toward Mainstreaming:
A Literature Review

Federal legislation mandating the education of children with handicaps in least restrictive educational settings (PL 94-142, 1975; PL 99-457, 1986) have created a need to prepare teachers for the arrival of these children their classroom. This need stems from the knowledge that the success of the process called mainstreaming is critically dependent upon the attitudes and expectations which teachers have toward mainstreaming and toward children with handicaps (Brophy & Everton, 1982; Gottlieb & Harper, 1967; Pasanella & Volkmor, 1981; Schwartz, 1984; Thompson & Morgan, 1980; Walker, 1983). The interactions between a child's skills and the receiving teacher's attitudes and expectations can determine the success of mainstreaming for the student, teacher, non-handicapped peers, and parents. In this paper, the authors review research literature on teacher attitudes toward mainstreaming, the implication of these attitudes for successful mainstreaming, and methods for impacting in a positive direction the attitudes of teachers toward mainstreaming and toward children with handicaps.

Attitude Assessment

Issues in Attitude Assessment

Before considering methods for modifying teacher attitudes, these attitudes and expectations must be measured accurately. Teacher attitudes toward mainstreaming and persons with handicaps have most frequently been assessed through questionnaires or through direct observation. Methods for assessing teacher attitudes and expectations have been mostly limited to paper and pencil measures (Hannah & Pilner, 1983; Salend & Johns, 1983).

However, the validity of this method of assessment is questionable. A discrepancy often exists between a teacher's expressed behavior and observed behavior (Salend & Johns, 1983). An alternative measure, direct observation of teacher behavior, has also been reported in the literature (Salend & Johns, 1983; Thompson & Morgan, 1980). Although this method seems more appropriate than verbal reports, studies utilizing this method are rare. The use of both methods are reviewed in this section.

Attitudes Assessed On Questionnaires

The most commonly used measure of teacher attitudes is the written questionnaire (Hannah & Pilner, 1983). Carefully constructed questionnaires can provide quick, unobtrusive measures of self-reported attitudes and of expectations about mainstreaming and about the child with handicaps. Additionally, questionnaires can provide teachers with a means of pinpointing, in writing, those areas where support services and technical assistance are needed.

The validity of written questionnaires has been questioned, however. Hannah and Pilner (1983) point out that most questionnaires tend to measure the affective component of a teacher's attitude, i.e., feelings of like or dislike about a subject. This self-report assessment is used to make an extrapolation of how a teacher may act in a real situation. Salend and Johns (1983) report that there are often differences between a teacher's expressed attitude and his or her action as observed by others. The discrepancy between expressed behavior and observed behavior can be deleterious to successful mainstreaming if only self-report data are taken into consideration when determining how well-suited a particular teacher may be for mainstreaming (Salend & Johns, 1983).

Some instruments reported in the literature which have been used to assess teacher attitudes are listed in Table 1. Information for each instrument includes: purpose, description, the population each instrument is intended to reach, strengths, and weaknesses. Unfortunately, little descriptive information is included in most articles about the instruments used. For example, most studies fail to provide examples of questions to acquaint the reader with the demands, wordings, and definitions of the scale. It is advisable that future studies include such sample questions to help a reader assess which instrument is most appropriate for a specific purpose or population. Without sample questions, the reader cannot determine which instrument may best answer his/her questions.

Another weakness in available instruments is the reliance upon labels to identify certain handicaps (Gajar, 1983; Hannah & Pilner, 1983). The use of labels, or categories of exceptionality, such as mentally retarded, handicapped, or physically disabled, raises the issue that the readers in a population may have multiple interpretations for the same handicap. Multiple interpretations of labels occurs when teachers attribute different characteristics to a label (Hannah & Pilner, 1983). For example, one teacher reacting to the term, physically handicapped, may envision a child who is helpless; whereas, another teacher may think of a child with physical handicaps as a person in a wheelchair, who demonstrates normal intelligence. Other teachers may be unsure about the meaning of a label. These types of situations can confound results in attitude assessment.

The use of labels on instruments has been further criticized because labels are associated with preconceived notions about behaviors and characteristics which can often lead to negative attitudes (Gajar, 1983). Hannah and Pilner (1983) found that children with emotional disturbances were viewed by teachers as unmotivated to learn, unfriendly, dishonest, and aggressive. Children with learning disabilities were viewed by teachers as aggressive, disruptive, academically low functioning, and angry. These assigned negative attributes can carry over into classroom interaction between teachers and mainstreamed students. Brophy and Good (1970) concluded from their research on communication of teacher expectations that students perceived by teachers as high achievers received more positive attention, while students perceived a low achievers receive more negative attention. Children with handicaps receive the similar negative attention as well as decreased cueing, prompting, praising and reinforcing. Such teacher behavior can create a self-fulfilling prophecy for children with handicaps, who themselves may already feel that they do not belong in a mainstream setting (Hersh & Walker, 1983; Walker, McConnell & Clarke, 1983). The student who is already functioning below peers and receives negative attention or decreased ______, praise and reinforcement from a teacher, has an increased chance of failure in the mainstream.

Hannah and Pilner (1983) assessed the reactions of teachers to a list of handicapping conditions using the Semantic Differential Paradigm. The first group of teachers reacted favorably to the learning disabled and the educationally handicapped labels, while the second group reacted more favorably to the labels of blind and deaf. With use of the Personal

Attributes Inventory, the same authors found that one group of teachers reacted more favorably to the label of physically handicapped than to the labels of mentally retarded and learning disabled, while a second group reacted most negatively to the labels mentally retarded and severe and profound. The range of reactions to these labels reiterates the problem of multiple interpretations of handicapping labels.

The problem of multiple interpretations of handicapping labels can be alleviated by providing specific descriptions of the behaviors and characteristics of persons with handicaps, rather than referring to a group of persons by a handicapping condition. Antonak (1980) examined the reactions of university graduate students to the integration of persons with handicaps in both schools and the community. Exceptionalities were operationally defined by the authors, (but unfortunately, the definitions were omitted from the article). Children who were described as normal and gifted were rated most likely to lead their adult lives in a least restrictive community setting, and children described as normal were rated most likely to be educated in a regular classroom. Children described as communicatively disordered and learning disabled were most favored for leading their adult lives in a least restrictive community setting, and children described as physically disabled and communication disordered were most favored for being educated in a regular classroom. The use of labels with accompanying descriptions decreases the chance for multiple interpretation, but the likelihood remains that teachers will continue to associate different behaviors and characteristics with a label based upon prior experience and exposure to a limited number of students with handicaps, unless specifically trained to recognize handicapping conditions and characteristics associated with each (Donaldson, 1980; Naor & Melgram, 1980; Stephens & Braun, 1980).

Attitudes Assessed Through Direct Observation

Observation studies may be a more appropriate method for assessing teacher attitudes toward mainstreaming and toward people who are handicapped. With a reliable method for unobtrusively collecting data, a teacher's actual behavior and interactions with a mainstreamed child can be recorded. Interventions need to focus on appropriate changes in teacher behavior if mainstreaming efforts are to be successful. One limitation of direct observations of course, is that the person being observed may alter his or her behavior during the observation period. However, one is more likely to observe samples of true behavior over periodic observations, than by relying solely on questionnaire data.

While the majority of studies have used questionnaires for assessment of attitudes, two studies are notable in the use of observation methods to assess teacher attitudes toward mainstreaming (Salend & Johns, 1983; Thompson & Morgan, 1980). In one study (Salend & Johns, 1983), the behaviors of two teachers were observed over a 17-week period as they worked with one child labelled as emotionally disturbed. Initial behavior samples were obtained from statements made by the teacher in the child's records, verbal comments made about the child, and about mainstreaming to other school personnel, and professional interactions with peers and placement teams. Initially, teacher comments expressed frustrations in dealing with inappropriate behaviors and unsuccessful instruction approaches. After a

17-week period of intervention that included a behavior change program targeted at decreasing the inappropriate behaviors of the child and increasing desirable classroom behaviors, positive changes in the student and teachers were found. Positive changes in the student included a decrease in the number of tantrums and an improvement in social relationships. Positive changes in teachers included an increase in positive descriptions of the student, comments in support of mainstreaming, and comments reflecting acceptance of the student as normal. As the student's inappropriate behaviors decreased and positive participation in classroom activities increased, teacher comments and descriptions of the student reflected a more positive attitude. Teacher attitudes improved as a result of their increased confidence in teaching the child. With support services from the school counselor and technical assistance in implementing a contingency reinforcement-behavior change program, the teachers received the training needed to better prepare them for teaching a mainstreamed child with emotionally disturbing behavior.

Interaction patterns between teacher and students were also directly observed in mainstream classrooms by Thompson and Morgan (1980). The Brophy-Good Teacher Dyadic Interaction System was used to collect data on interaction patterns between teachers and students in groups of students classified as high-achievers, low-achievers, learning disabled, and behaviorally handicapped. Significant differences were found among teacher interaction patterns with the four groups of students. Teacher-student interaction and teacher feedback occurred most often with the students labelled behaviorally handicapped. The authors suggested from this finding that teachers were attending more often to inappropriate behaviors, thus reaffirming the need for teacher training in behavior management and serving the needs of children with handicaps.

In summary, it is recommended that when assessing teacher attitudes and expectations for mainstreaming children with handicaps, a method for assessment be employed that is reliable and valid. In using written self-reports, definitions of handicapping conditions would clarify questions for respondents. However, it appears that a naturalistic observation method is the best data system for assessing a true picture of teacher behavior.

The Need to Review Teacher Attitudes

In 1979, Semmel, Gottlieb, & Robinson reviewed the attitudes of professionals toward mainstreaming, and found that teachers and principals generally held a pessimistic attitude toward mainstreaming. The findings were partially attributed to the fact that mainstreaming was relatively new (most studies reviewed by the authors were prior to 1976), and could reflect concern over a novel activity.

A second review was conducted by Jones, Jamieson, Moulin & Towner (1981), in which research methodologies in attitude studies were soundly criticized for lack of validity, contamination of pre-training measures, and inappropriate data collection and analysis procedures. Jones et al, (1981) could not make specific conclusions about teacher attitudes toward mainstreaming because of the confounding variables across the studies reviewed; however, they offered guidelines for attitude-change programs. These guidelines emphasized interpersonal and communication factors that teachers and teacher trainers could develop to work on the exchange of accurate messages, which was indicated as critical in the formation and change of attitudes.

The discussion which follows is based upon the premise that mainstreaming often does not occur because the adults involved, most often teaching personnel, are not totally supportive of mainstreaming. In keeping with common terminology, this support or its absence, will be referred to as a positive or negative attitude, respectively. Specific observations and recommendations are also provided to address a number of obstacles to attitude change.

Modifying Teacher Attitudes Toward Mainstreaming

Research evidence indicates that teacher attitudes toward mainstreaming and toward children with handicaps can be modified (Alexander & Strain, 1978; Hannah & Pilner, 1983; Hersch & Walker, 1983; Larrivee, 1981; Lombardi, Meadowcroft, & Strasburger, 1982; Reynolds, Martin-Reynolds, & Mark, 1981; Ringlaben & Price, 1981; Stainback & Stainback, 1981; Thompson & Morgan, 1980; Reynolds). However, one must first identify the factors which affect attitudes. The unwillingness of some teachers to accept children with handicaps into the regular classroom, can result from several factors. These factors include: a) teachers' lack of knowledge about the laws protecting people with handicaps (Lombardi, Meadowcroft & Strasburger, 1982; Ringlaben & Price, 1981); b) lack of knowledge about handicapping conditions (Hannah & Pilner, 1983; Larrivee, 1981; Lombardi, Meadowcroft & Strasburger, 1982; Ringlaben & Price, 1981; Schleifer & Klein, 1978); c) lack of understanding about the mainstreaming process (Ringlaben & Price, 1981); d) lack of training to teach the mainstreamed child (Child, 1981; Hersh &

Walker, 1983; Larrivee, 1981; Salend & Johns, 1983; Schleifer & Klein, 1978; Stainback & Stainback, 1982); e) lack of incentive by school districts for teachers to accept such children (Schwartz, 1984); f) characteristics of children with handicaps, which may affect attitudes (Hannah & Pilner, 1983; Salend & Johns, 1983; Schleifer & Klein, 1978); and g) the amount of support services and technical assistance available for the mainstreaming teacher (Cohen, 1983; Donaldson, 1980; Hannah & Pilner, 1983; Larrivee, 1981; Lombardi, Meadowcroft & Strasburger, 1982; Rule, Killoran, Stowitschek, Innocenti, Striefel & Boswell, 1982). A teacher whose preparation addresses all of these areas has an increased likelihood of success in teaching the mainstreamed child. These areas will be reviewed individually.

Teacher Knowledge Needs: Laws and Rights

One way in which teachers become supportive of mainstreaming is through education to increase teachers' knowledge of the laws and rights protecting people with handicaps. Haisley & Gilberts (1978) have developed a knowledge-based checklist that identifies 10 facets of P.L. 94-142 that teachers need to know if the law is to be implemented in a positive and realistic manner. These 10 facets include: 1) laws regarding the handicapped, 2) handicapping conditions, 3) terminology and definitions of mainstreaming that appear in P.L. 94-142, 4) understanding of appropriate instructional settings for children with handicaps, 5) child evaluation procedures, 6) procedural safeguards, 7) IEP development and implementation, 8) state and local guidelines for implementing 94-142, 9) least restrictive placement possibilities, and 10) related services and their availability.

Methods for updating what teachers need to know about P.L. 94-142 include inservice workshops and coursework. Although these methods for developing teacher knowledge are often implemented for teachers already in the school system, the adequacy of such programs is questionable (Powers, 1983). Teachers at the pre-service level also need exposure to mainstreaming, and the implementation of P.L. 94-142. It is recommended that college faculty, regular and special education teachers, and pre-service teachers receive or continue to receive training on P. L. 94-142 with emphasis on its application in mainstreaming.

Teacher Knowledge Needs: Understanding Handicapping Conditions

One way in which teachers become supportive of mainstreaming is by increasing their knowledge of handicapping conditions through formal instruction. Stephens and Braun (1980) assessed teacher knowledge of handicapping conditions by the number of special education classes which a teacher had taken. They concluded that teachers who had taken a greater number of special education classes indicated a greater willingness to accept placement of a child with handicaps in their regular classrooms. This finding resulted in a suggestion that the number of special education classes required of preservice teachers be increased to include knowledge of mainstreaming, assessment techniques, and communication/consultation skills (Naor & Milgram, 1980; Stephens & Braun, 1980), and that additional coursework for practicing teachers be provided as an effective method of intervention to offset lack of teacher knowledge about handicapping conditions, and to increase the willingness of teachers to accept a child with handicaps into their classrooms (Alexander & Strain, 1978; Ringlaben &

Price, 1981; Warger & Trippe, 1982). Donaldson (1980) added that course instruction should include the dissemination of information, exposure to handicapping conditions through media services and disability simulations, and carefully planned discussions based on information rather than biased opinion and emotion.

Teachers' Need to Understand the Mainstreaming Process

The idea of mainstreaming children with handicaps into regular classrooms frightens many regular educators. These fears can stem from a lack of understanding about the mainstreaming process; i.e., what mainstreaming means and how it can be implemented. Some teachers envision mainstreaming as a wholesale return of all children with handicaps from special education to regular classes. They fear that these children will be placed all day in their classes, and that essential support services will be limited. Teachers must be educated to view mainstreaming a continuing process rather than a discrete event (Guralnick, 1983). Mainstreaming is the instructional and social integration of children who have handicaps into educational and community environments with children who do not have handicaps (Johnson & Johnson, 1981; Kaufman, Gottlieb, Agard, & Kuker, 1975; Nash & Boileau, 1980; Pasanella & Volkmor, 1981; Peterson, 1983; Reyolds & Birch, 1982; Stremel-Campbell, Moore, Johnson-Dorn, Clark & Toews, 1983; Turnbull & Schultz, 1977; Weisenstein & Pelz, 1986; Zigmond & Sansone, 1981). Successful mainstreaming must:

1. Be based on the decision of the IEP team that a child can potentially benefit from placement with children who are not handicapped (Brown, Falvey, Vincent, Kaye, Johnson, Ferrara-Parrish, & Gruenewald, 1980;

Johnson & Johnson, 1981; Nash & Boileau, 1980; Weinstein & Pelz, 1986; Wilcox & Bellamy, 1982);

2. Provide a continuum of least restrictive placement options which range from brief periods of limited interactions, to full-time participation in regular classrooms (Deno, 1973; Price & Weinberg, 1982; Nash & Boileau, 1980; Reynolds and Birch, 1982; Thompson & Arkell, 1980; Weisenstein & Pelz, 1986);
3. Specify the responsibility of students, parents, regular and special education teachers, administrators, and support personnel (Cansler & Winton, 1983; Hughes & Hurth, 1984; Johnson & Johnson, 1986; Pasanella & Volkmor, 1982; Peterson, 1983; Powers, 1983; Taylor, 1982; Weisenstein & Pelz, 1986; Zigmond & Sansone, 1981);
4. Include pre-placement preparation, post-placement support, and continued training for students with and without handicaps, their parents, teachers, administrators, and support personnel (Cansler & Winton, 1983; Donaldson, 1980; Guralnick, 1983; Hughes & Hurth, 1983; Larrivee, 1981; Peterson, 1983; Powers, 1983; Nash & Boileau, 1980; Reynolds & Birch, 1982; Schwartz, 1984; Taylor, 1982; Thompson & Arkell, 1980; Zigmond & Sansone, 1981);
5. Maximize appropriate interactions between children with and without handicaps through structured activities (such as peer tutoring or buddy systems) and social skills training, as appropriate to specific situations and abilities (Arick, Almond, Young, & Krug, 1983; Gresham, 1981; Hughes & Hurth, 1984; Johnson & Johnson, 1981; Madden & Slavin, 1983; Reynolds & Birch, 1982; Schwartz, 1984; Stainback & Stainback,

1981; Stainback, Stainback, & Jaben, 1981; Taylor, 1982; Voeltz, Keshi, Brown & Kube, 1980; Walker, 1983; Weisenstein & Pelz, 1986);

6. Provide functional, age-appropriate activities that prepare the child with handicaps to function in current and future community environments (Brown, Nietupski, Hamre-Nietupski, 1976; Brown, et al, 1980; Wilcox & Bellamy, 1982; Wilcox, McDonnell, Rose & Bellamy, 1983); and
7. Occur without major long-term disruption of ongoing educational activities or other detriments to children with and without handicaps in the mainstream setting (Cooke, Ruskus, Appolonia & Peck, 1981; Hamline, 1985; Price & Weinberg, 1982; Vergon & Ross, 1981).

It is recommended that this definition of mainstreaming be communicated to regular educators before decisions are reached to mainstream handicapped children who have handicaps. It is speculated that if teachers are provided with a knowledge base of what mainstreaming is and is not, and how it can be implemented successfully, then teachers will become more receptive toward mainstreaming.

Teacher Training Needs

The majority of regular class teachers believe themselves to be poorly equipped for working with students with handicaps. In one study, 85% of a group of teachers expressed that they lacked the necessary skills for teaching children with handicaps (Crisci, 1981). Training needs for teachers include individualized instruction, interpretation of test results, remediation of instructional deficits, and classroom and behavior management. Coursework and/or inservice training in these areas prior to placement of children with handicaps in regular classes is important if mainstreaming is to be successful. In a comprehensive review of teacher training literature, Adams, Quintero, Killoran, Striefel, & Frede, (1986) identified 23 competencies for teachers which could facilitate the process of mainstreaming. The competencies could serve as a sound basis for pre-service and inservice teacher training programs.

Teacher Incentives for Mainstreaming

It may be speculated that school districts lack positive consequences for teachers to accept such children. Accordingly, teachers who do not accept these children in their classes do not have to experience negative consequences. A common practice is to identify a receptive teacher in a school, and to repeatedly mainstream students into that teacher's classroom. However, this system can result in overwhelming the once-receptive teacher, and in the view that mainstreaming is the responsibility of some, but not all, educators (Walker, 1983). A great deal of attention has been focused upon child reinforcement techniques, but little has been written about teacher reinforcement. One study specifically recommends additional pay, compensatory time and lower pupil-teacher adult ratios (Quetzloe & Cline, 1983).

Student Characteristics and Teacher Attitudes

A teacher`s positive attitude and feelings of success in his/her work have been linked to the academic progress demonstrated by that teacher's students (Hannah & Pilner, 1983; Schleifer & Klein, 1978). Since the educational progress of children with handicaps is usually slower than the progress made by nonhandicapped peers, a teacher who lacks experience in working with children who have handicaps and who lacks the skills necessary for monitoring the progress made by a child with handicaps may feel discouraged with a child's slow progress (Salend & Johns, 1983; Schleifer & Klein, 1978). The study described previously in which placement of a child with emotional disturbance was preceded by intervention strategies including teacher training by special educators, school psychologists, and counselors in the application of behavior modification techniques with contingent reinforcement, demonstrates how as the student began to exhibit positive behavior change, the teacher's comments also began to reflect a positive trend. This implies, and is supported in the literature, that teacher attitudes are more positive toward those students with whom they experience success (Hersh & Walker, 1983; Morgan & Thompson, 1980; Salend & Johns, 1983; Schleifer & Klein, 1978). Furthermore, when a mainstreamed student was perceived by teachers as demonstrating success, teachers expressed disinterest in referring the student for placement in a special education class. They encouraged continued placement in the mainstream, and they described the student with handicaps as having needs which were within the normal range for the class.

Student achievement also determines the attention which a student receives from the teacher (Alexander & Strain, 1978; Brophy & Good, 1984; Hersch & Walker, 1983; Thompson & Morgan, 1980). Teachers direct greater attention to high achievers, and they direct less attention to low achieving students. A child with handicaps functioning at a delay of two years in contrast with nonhandicapped peers is likely to receive the same decreased amount of attention as the low achiever, even when attention is given, it is likely to be negative in nature (Brophy & Good, 1974; Thompson & Morgan, (1980). Thompson and Morgan (1980), using the Brophy-Good Teacher-Child Dyadic Interaction system (1974), found that teachers initiated higher rates of interaction with students with behavioral handicaps than with groups of high and low achieving nonhandicapped and students with learning disabilities however, although the students with behavioral handicaps received more teacher feedback, the majority of this feedback involved observations and reprimands for inappropriate behavior. Interestingly, a teacher who attends more often to inappropriate behaviors can inadvertently increase these behaviors through selective attention to them (Barkley, 1981). For this reason, Thompson and Morgan support the need for teacher training in behavior management techniques to instruct teachers on the use of attention for appropriate desirable classroom behaviors.

A converse situation may also pose problems in a mainstreaming setting: children with handicaps may receive preferential treatment in the mainstreaming classroom. This situation leads to the concern expressed by some parents of nonhandicapped children that there will be a reduction in time and attention their children will receive if children with handicaps are present in the same class (Bloom & Gargunkel, 1981; Demerest & Vuoulo, 1983; Karnes, 1980; Schmalz, 1982; Turnbull & Turnbull, 1983).

In summary, the slow progress and behavior deficits which are characteristic of students with handicaps can negatively affect teacher attitudes toward mainstreaming. To counter this situation teachers need to be trained in specific teaching techniques, data collection to monitor student progress, and observations of a student's achievements that teachers can experience their students' success, and feel competent in knowing how and when to respond to a student's needs.

Support Services & Technical Assistance

The amount of support services and technical assistance which are available to a regular classroom teacher are major factors contributing to positive teacher attitudes toward mainstreaming and children with handicaps (Cohen, 1977; Donaldson, 1980; Hannah & Pilner, 1983; Larrivee, 1981; Lombardi, Meadowcroft, & Strausburger, 1982 Rule, Killoran, & Striefel et al., 1982). Support services include the availability of special educators, psychologists, and other specialists to provide the regular classroom teacher with needed consultation and suggestions for teaching the mainstreamed child. Technical assistance can take the form of coursework, inservice workshops, conferences, and discussion groups. However, it becomes critical to be able to accurately determine specific areas in which teachers need technical assistance in working with children who have handicaps.

The need to assess teacher expectations of the mainstreamed child has been addressed by Walker and colleagues (1983) through the development of the Social Behavior Survival Program (SBS). This program enables one to assess the social and behavioral expectations that regular teachers may have for students with behavioral handicaps. As the authors point out (Walker & Rankin, 1982), the greatest reason for failure of students with mild or moderate handicaps in a mainstream environment is typically the exhibition of inappropriate classroom behaviors (i.e. noncompliance, self-abuse, physical aggression). Teacher's failure to deal with such behaviors appropriately also contribute to the failure of the child with handicaps in the mainstream. However, it does not appear to necessarily follow that the success of a student with handicaps in a mainstream environment will be determined solely by appropriate social classroom behavior. Students with deficits in self-help, cognitive and communication skills are also greatly disadvantaged in a regular classroom when a teacher is not prepared to manage these deficits. In order to address these areas, the Mainstream Expectation and Needs Assessment (MESA) for school-age and for preschool and kindergarten children (MESA-PK) were developed (Striefel, Killoran & Quintero, 1985; Striefel, Killoran & Quintero, 1986). These instruments were designed to provide a receiving teacher with the opportunity to indicate what child skill deficits would be problematic in the receiving class, and for which of these deficit areas the teacher would need technical assistance and/or support services. This information can be used to: (1) provide necessary services to the teacher, (2) train the child in critical deficit areas, and (3) provide information on what skills other students will need to learn in order to be mainstreamed successfully. Research with these instruments is currently being conducted to determine their effectiveness in addressing these areas.

In summary, it is recommended that instruments for assessing teacher expectations in areas related to mainstreaming be developed and that the skill levels of the child with handicaps be assessed thoroughly in the same areas. A procedure for matching the child's skill level to a teacher's expectations is a critical need if mainstreaming of children with handicaps into the regular classroom is to be successful.

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Mainstreaming: A New Role for the Special Educator

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Running Head: Special Educator Role

**This product was developed by the
Functional Mainstreaming for Success (FMS) Project**

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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Abstract

The process of mainstreaming requires changes in the role of the special educator. The new role requires special educators to learn at minimum: (a) the rationale and benefits of mainstreaming, (b) methods of promoting mainstreaming, (c) curricula, rules, and social expectations in receiving classrooms, and (d) methods for preparing special education students for mainstreaming. Additionally, special educators may feel a protectiveness toward their students which may result in a reluctance to mainstream or to equitably distribute children across all potential receiving teachers. It is important for school administrators to recognize and address the changes that mainstreaming imposes upon the special educator.

"Mainstreaming: A New Role for the Special Educator

A major goal of mainstreaming is to allow children with handicaps to experience the demands, as well as the day-to-day pleasures, of the world beyond the segregated, self-contained classroom and to learn from that experience. In order to achieve this goal, mainstreaming must be defined and implemented as a continuing process, rather than as a discrete event. It must include the physical, instructional and social integration of children who have handicaps into educational and community environments with children who do not have handicaps. Furthermore, successful mainstreaming must:

1. Be based on the decision of the IEP team that a child can potentially benefit from placement with children who are not handicapped;

2. Provide a continuum of least restrictive placement options which range from brief periods of limited interactions, to full-time participation in the regular classroom;

3. Specify the responsibility of students, parents, regular and special education teachers, administrators, and support personnel;

4. Include pre-placement preparation, post-placement support, and continued training for students with and without handicaps, their parents, teachers, administrators, and support personnel;

5. Maximize appropriate interactions between children with and without handicaps through structured activities (such as peer tutoring or buddy systems) and social skills training, as appropriate to specific situations and abilities;

6. Provide functional, age-appropriate activities that prepare the child with handicaps to function in current and future community environments; and

7. Occur without major long-term disruption of ongoing educational activities or other detriments to children with and without handicaps in the mainstream setting. (Striefel, Killoran, Quintero & Adams, 1985).

Roles

Mainstreaming, thus defined, requires the preparation of all participants in the process. The emphasis of this preparation, support, and assistance is usually focused upon the regular educator who receives the child, (Crisci, 1981; Masat & Schack, 1981; Saunders & Burch, 1982; Sharp, 1982; Yanito, Quintero, Killoran, & Striefel, 1985). These efforts are well-directed, since they are aimed at creating a receptive learning environment for the mainstreamed child.

However, preparation for mainstreaming should not target the regular educator alone. It must also include the preparation of the special educator who must promote mainstreaming not only among fellow educators, but frequently among hesitant administrators. Furthermore, it is often assumed that the special educator is a whole-hearted supporter of mainstreaming, when in fact, this may not always be true (Hughes & Hurth, 1984; Turnbull & Winston, 1983). The special educator has mainstreaming preparation needs that are too frequently overlooked. This preparation must address knowledge deficits, emotional support needs, improved public relations and communication skills, and broader curriculum training. Additionally, the special educator is often the sole organizer, implementor, and evaluator of mainstreaming in a school, in addition to serving as a child advocate. These roles can result in conflicts with other teachers and administrators (Milner & Beane, 1983). Finally, administrative responsibility for mainstreaming is often conferred upon the special educator, without the administration's support for implementing necessary procedures. Without such recognition, as well as tact and social skills to encourage colleagues, the special educator's efforts can further alienate regular educators, and increase disagreements about mainstreaming from the outset.

Preparing the Special Educator for Mainstreaming

Special educators require preparation for mainstreaming in four major areas: knowledge of mainstreaming, personal support, public relations, and functional curriculum training. Each area will be discussed individually.

Knowledge Needs

It is usually the special educator who is asked by regular educators to justify why students in special education are mainstreamed. If the special educator is unsure about the purpose of mainstreaming students, it is unlikely that other educators will come to understand the need for students with handicaps to be educated in a least restrictive environment. The special educator must be able to communicate that education with normal peers affords opportunities for the handicapped child to: (a) learn to behave appropriately by observing other students (Odom, Deklyen, & Jenkins, 1984); (b) learn age-appropriate patterns of language and communication by listening and participating in a complex, demanding environment (Odom, et al, 1984; Zigmond & Sansone, 1981); (c) have opportunities to practice or generalize skills which are learned in the special education classroom (Odom, et al. 1984; Pasanella & Volkmor, 1982); (d) learn and use appropriate social skills (Odom, et al, 1984; Price & Weinberg, 1982); and (e) learn to function in the community (Becker, 1983).

Additionally, it is helpful for the special educator to know and communicate that nonhandicapped students are not disadvantaged by mainstreaming, when the process is implemented with foresight and careful planning (Adams, Quintero, Striefel, & Frede,1985; Walker, 1983). Finally, in mainstreamed early childhood programs where peers assume some responsibility (e.g. helping the child get his coat off) for the student of lesser ability, more mature behaviors and fewer discipline problems are observed among nonhandicapped peers (Price & Weinberg, 1982).

A second knowledge need area stems from the general lack of systematic procedures that are available for mainstreaming (Striefel & Killoran, 1984). Without examples of successful, well-planned mainstreaming efforts, regular and special educators have no models to follow. Input and commitment from administrators in outlining this process for a school or agency is critical (Pasanella & Volkmor, 1981; Taylor, 1982). A well-outlined plan for mainstreaming provides guidelines to follow which the special educator can also use as an educational guide for regular education colleagues.

The special educator needs precise information about mainstreaming if other educators within a school are to become knowledgeable supporters of mainstreaming. Unfortunately, pre-service programs in special education do not address mainstreaming in detail (Adams et al., 1985 Hughes & Hurth, 1984); therefore, few special educators can be expected to have adequate knowledge about mainstreaming when they enter the field of education. It may rest upon directors of regular and special education to plan and implement this training with teachers in the field.

Personal Support Needs

The special education student often remains in special education with the same teacher for years. Over time, the teacher and the student form a bond which can promote student dependency upon the teacher, and can also lead to overprotection of the student by the teacher (Hughes & Hurth, 1984). As a result, special educators can experience ambivalent feelings about mainstreaming their students. This situation is compounded by the isolation from peers which special educators themselves feel in a public school (Haight, 1984; Hughes & Hurth, 1984). It is important that administrators, specialists, and colleagues recognize overprotective behavior, and involve the target teacher in team decisions where concerns can be voiced and addressed, while still advancing the student's progress into mainstream activities.

Extensive planning and preparation need to occur before attempting to mainstream a child (Striefel, Killoran, & Quintero, 1986), the focus here is on the preparation of the special educator. A gradual transition of a student from the special education classroom to a mainstream placement (e.g., ten minutes a day) may help all of the teachers (regular and special educators) to observe the child's progress and gain confidence in the new program.

Another thrust of personal support efforts must address the concern of special educators that by mainstreaming students out of their classes, they may be reducing the need for special education and, for special educators. This concern emphasizes the need for a change in the role of the special educator. As children leave the special education class, the role of the special educator must expand from one of direct service provider, to one which includes being an educational consultant, who provides a receiving teacher with ideas, training, and support to successfully cope with a child's limitations (Hughes & Hurth, 1984; Pasanella & Volkmor, 1981). The special educator who is unwilling to assume this role may, in fact, be facing a serious employment dilemma. Conversely, the special educator who accepts this shift in responsibilities may need training in adult management in order to become a skillful consultant.

Public Relations Issues

The special educator is often the individual who "sells" the idea of mainstreaming to administrators, parents, and to other teachers. In attempting to do so, however, the special educator is often faced with four major obstacles in the education system: (a) the regular educator's lack of familiarity with the education of students with handicaps; b) the excuse that a child cannot be mainstreamed because the receiving classroom is overcrowded with nonhandicapped students; (c) administrators who delegate the responsibility for mainstreaming to the special educator without conferring the needed authority and; (d) parents (of children with handicaps) who are opposed to having their child mainstreamed or parents (of normal chldren) who do not want children who have handicaps in their child's class. These obstacles will be discussed individually.

"But I don't know what to do". Regular education teachers often report that they are not trained to teach students with handicaps (Adams, et. al., 1985; Crisci, 1981; Hannah & Pilner, 1983). While it is true that special education was created to meet the needs of students who demand more time to learn and who may need adaptations of existing curricula to learn specific skills, a review of the literature on teacher competencies for mainstreaming determined that only 4 competency areas were specific to the needs of mainstreamed students (Adams, et al., 1985). These areas addressed: knowledge of handicapping conditions, knowledge about the process and rationale of mainstreaming, legal issues related to mainstreaming, and preparation of a class for mainstreaming. The other 19 competency areas were necessary for effective teaching of all students, and required only minimal, child-specific training or consultation for successful mainstreaming. These findings are supported by Gardner (1977), who stated that methods used to teach regular and special education students are not unique for either group. In stating this position, the authors are not declaring that special education is unnecessary or has not been effective in educating many students; rather, it is submitted that special education is a part of regular education. Unfortunately, the very label, "special," has separated the education of children with handicaps from the field of education at large, thus creating a dual system (Stainback and Stainback, 1984). Furthermore, the ease by which students are often referred to special education can also minimize opportunities for regular educators to use skills and techniques which promote the successful return of students with handicaps to their classroom (Walker, 1983). A good starting point for reconciling these differences may be for administrators to promote the position that: (a) all educators in a school are equal members of the staff within that school; (b) all teachers will be actively involved in mainstreaming; (c) regular educators have many teaching skills which can be applied in educating a child with handicaps, and (d) inservice and training programs are to be attended by both regular and special educators.

"But I have 35 children in my classroom". In an age of increasing classroom sizes, it may appear necessary to withhold mainstreaming from a student's program because receiving classrooms are overcrowded. However, classroom size is not acceptable legally as a reason for not mainstreaming. If the size of a receiving classroom were allowed to dictate the most appropriate education for a student with handicaps, the same criteria would have to apply to students without handicaps. In other words, if an existing school had a third grade, with a "maximum" capacity of thirty-four children, but thirty-five children were currently enrolled in the second grade, it would be necessary to exclude or retain one second grader (regardless of that student's need or progress) or to hire an additional teacher. When applied to non-handicapped students, the solution is clear; students can not be discriminated against by being retained or excluded because the receiving classrooms are inadequate in size or because there are too few teachers for incoming students. Since these guidelines cannot apply to regular education students, they cannot apply to special education students.

The argument of class size is a difficult one for special educators to refute, especially since special education services appear to be better funded than services for regular students, (Deno, 1970). The answers to overcrowding must come from an administrative level through systemic changes. As a first step, administrators must be able to shift funds so that special education monies can be used in the regular classroom for resources, such as hiring aides (Reynolds & Birch, 1982; Stainback & Stainback, 1984). Additionally, teachers need to know that the best education is not necessarily one where children have the lowest pupil to teacher ratio. (Were this the case, then homebound tutorial instruction would be the ideal education for most children). For many children with handicaps, the most appropriate educational environment is the regular classroom. The issue of overcrowded schools is of serious concern for all students, but a solution cannot be obtained by denying a subset of students the education which they deserve.

"You go ahead and do it". It is unrealistic to expect a school administrator to know the details of every child's education within a school. However, the cooperative nature of mainstreaming, and the pressures which mainstreaming can place on teacher-teacher relations, demand that a school administrator assume a leadership position or designate a staff member to be responsible for and have authority over: (a) introducing mainstreaming to the staff in a school, (b) stating that mainstreaming will involve all teaching staff, (c) assuring that the mainstreaming process is carefully planned and responsibilities are appropriately distributed, and (d) providing leadership and staff support (Pasanella & Volkmor, 1982; Sharp, 1982b). It must be acknowledged that some administrators are opposed to mainstreaming, are unwilling to assume strong leadership roles, or are poorly equipped to manage the intricacies of mainstreaming. By overlooking or denying their responsibilities to their special education students, these administrators can pose formidable obstacles to education. The issue of administrator preparation and support for mainstreaming is an important topic for further investigation.

Even in cases where administrators are supportive, it may be tempting for the school administrator to delegate the role of leader to the special educator, without also delegating the appropriate authority. The transfer of responsibility without concomitant recognition or support can create serious difficulties. First, the special educator is placed in an awkward position of asking a colleague to mainstream a student as a favor, when, in fact, mainstreaming is not a teacher courtesy; it is a required response to meet the needs of a child. Also, if the special educator is the sole determinant of which teachers should receive students, favorite colleagues may be repeatedly targeted for mainstreaming, while others are not approached. Such a system does not ensure equity among all teachers, does not maximize the number of mainstream placements which are available, and tends to present mainstreaming as an optional activity. Second, if problems or misunderstandings arise, the special educator without authority cannot decide or implement a course of action. The delicate balance which often exists between regular and special education in many schools cannot afford setbacks resulting from unnecessary human misunderstandings. Third, if such authority is conferred, a formal recognition of the transfer of this responsibility from an administrator to a special educator must be clearly announced. Without clear delineation of responsibilities, a regular educator who needs prompting to conduct certain procedures or who needs technical assistance and support services, cannot be helped effectively by the special educator. Additionally, supervisory responsibilities that are not acknowledged by regular education colleagues could result in the special educator no longer being seen as a colleague who is a resource for training or assistance, but rather, as an unwelcome intruder into the regular educator's domain.

In summary, special educators can and should be advocates of mainstreaming within a school. However, the advocacy role must not be interpreted by administrators as an opportunity to transfer administrative responsibilities to the special educator unless appropriate compensation, authority and clear definition of roles are also included.

Parental Opposition

Parental opposition to mainstreaming can be one of the biggest obstacles for the special educator to overcome. The mainstreaming-related fears of the parents of children who have handicaps and of parents of children without handicaps are well documented (Quintero, Striefel, Ahooraiyan, and Killoran 1986). These fears include concern over: limited teacher time for addressing the needs of all children, reduction in special services, accessibility, safety, and social adjustment of participating children. To overcome parental opposition requires that a school have a pro-active rather than reactive approach, i.e., continuing parent involvement and an ongoing parent education program concerning the benefits and legal mandates of mainstreaming.

This action is supported by the findings of Turnbull, Winton, Blacher & Salkind (1983) who found that prior to mainstreaming, the majority of parents of children without handicaps in their sample favored special class (nonintegrated) placement for children with handicaps. However, after their children participated in mainstreamed classrooms, these parents became strong advocates for mainstreaming. Similar findings were reported by Price & Weinberg (1982) and Vincent, Brown and Getz-Sheftel (1981).

Surprisingly, parents of children with handicaps are also uninformed about mainstreaming (Turnbull, et al, 1983). This situation is particularly disturbing when parents are expected to be informed, active participants in decision-making for their child.

Parent opposition can be diminished with accurate information. Brief messages in school newspapers, fliers, and parent meetings can be used to subtly educate parents of children without handicaps about the benefits of mainstreaming. Furthermore, supportive parents can be used to deliver these messages, in a parent-to-parent format, instead of using invited guests or other individuals that may not be viewed by parents as true peers.

Functional Curriculum Training Needs

The special educator is responsible for preparing students for participation in mainstream activities by designing a special education program that develops skills needed for further mainstreaming of each student. In other words, the goals on an IEP should address skills which are necessary in regular environments such as a regular classroom, a lunchroom, a playground, a bathroom, the hallway, or a home or community setting. However, in order to achieve functionality of goals, special educators may need to observe regular classrooms to determine the social and academic demands placed upon students in those settings (e.g., Striefel, Killoran, & Quintero, 1986, have developed observation systems for use in determining demands). If the special educator does not identify the behaviors that are functional beyond the special education classroom, he/she cannot design IEP's that promote independence in students.

Summary

Mainstreaming is a process that will require changes in order to be implemented effectively. These changes include:

1. A reassessment of the role of special educators from that of direct service providers only, to consultants as well as teachers.

2. Specific training and administrative support to facilitate the assumption and execution of this new role.

3. Incorporation of special and regular education into an integrated, total system of education.

4. Administrative action to assume a leadership role in the mainstreaming process.

5. Recognition that education in a least restrictive environment is mandated by law, and that an appropriate education

for children with handicaps requires that they participate in the mainstream.

6. Training about, and/or involvement in mainstreaming, for all staff and parents.

7. The acknowledgement of mainstreaming as an on-going process in the education of children with handicaps.

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Author Notes

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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A Model for Integrated Preschool Classroom Service Delivery

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Running Head: A MODEL FOR INTEGRATED CLASSROOMS

A Model for Integrated Preschool Classroom Service Delivery

The integration of preschool children who have handicaps into community preschools has been a major focus of early intervention programs in recent years (Guralnick, 1983; Striefel & Killoran, 1984a, 1984b; Weisenstein & Pelz, 1986). Integration attempts have ranged from placing children in physical proximity with non-handicapped peers, to full-time placement of children with severe handicaps into normal daycare (Rule, Killoran, Stowitschek, Innocenti, Striefel, & Boswell, 1985; Guralnick, 1983). The importance of providing early intervention in least restrictive settings for children who have handicaps was emphasized by the passage of P.L. 99-457, the extension of P.L.94-142 to the age of three (Congressional Records, 1986) which mandates least restrictive services; and by the committment demonstrated by the Office of Special Education and Rehabilitative Services in prioritizing early childhood intervention and least restrictive environments as their number one goal (Bellamy, 1986).

Integration can appear difficult to achieve because children who have handicaps often require greater numbers of trials in order to learn a skill, smaller groups or individual attention during training, and procedures for specifically generalizing learned skills across different settings and trainers (Stokes & Baer, 1977; Brown, Nisbet, Ford, Sweet, Shiraga, York, & Loomis, 1983). Traditional teaching techniques used in normal preschool programs often lack the intensity and systematic components needed to teach a child who has handicaps (Dewulf, Stowitschek & Biery, 1986). These components: assessment, individualization, and progress monitoring, have been demonstrated to increase the effectiveness of instruction. Teachers, themselves, report their perceived lack of preparation and training for teaching children with handicaps (Stainback & Stainback, 1983). An innovative, alternate model of service delivery is needed which accommodates training to meet an individual child's needs, while still addressing the needs of the group.

Service Delivery Philosophy

The Functional Mainstreaming for Success (FMS) Project (Striefel & Killoran, 1984b) has developed a model for preschool mainstreaming which is committed to the philosophy of providing services in totally integrated settings to preschoolers with handicaps. This philosophy is based on the premise that adults with handicaps who are expected to function within, and contribute to, normal community settings, must learn as children to function within normal environments (Donder & York, 1986). However, exposure to a normal environment alone will not guarantee successful interaction in that environment (Brown, Bronston, Hamre-Nietupski, Johnson, Wilcox, & Grunewald, 1979; Gresham, 1981). Integration must go beyond physical integration, to the incorporation of instructional and social integration as major goals of a program (Nash & Boileau, 1980; Striefel & Killoran, 1984a; Striefel & Killoran, 1984b; Zigmond & Sansone, 1981).

The FMS model was implemented with 11 children with handicaps and 16 children without handicaps, ages 3 to 5, in 2 classrooms. The classrooms are non-categorical; i.e., children with mild to severe handicaps and children without handicaps attend classes together with nonhandicapped peers. In the three mainstreamed classrooms, 1/2 of the children have handicaps and 1/2 of the children do not have handicaps. Children attend preschool daily for 2 1/2 hours per day, and are taught in large and small groups. Service goals for children with handicaps are addressed in these groups, unless a child's progress indicates that he/she needs one-to-one intervention. One-to-one sessions are kept at an absolute minimum, so that the child can still participate in other activities where language, social, and group attending skills can be developed and practiced. Through this combined use of traditional group curriculum, novel individualized curriculum, and increased structure within curricula, all children are effectively educated. The rationale, implementation, and preliminary effectiveness data of the FMS model will be discussed.

Rationale

Group Vs. Traditional Individual Curricula

The FMS Model was designed to incorporate the strengths of traditional group and individualized (one-to-one) teaching methods. Each method is described below.

Group Curricula.

Simply stated, curricula are a systematic arrangement of time, procedures, materials, and tasks (Findlay, Miller, Pegram, Richey, Sanford, Schmran, 1976). In group curriculum, this arrangement is based on addressing the common characteristics and needs of more than one student at a time (Findlay, et al, 1976), and usually incorporates skills that are developmentally sequenced, and are taught through instructional exploration of the environment; however, children with handicaps are particularly poor at learning incidentally and generalizing any such learning to other situations (Stokes & Baer, 1977). In a traditional preschool program, individualized instructional objectives are usually not established (Curry-O'Connell, 1986). Group curricula traditionally follow a unit or theme concept, in which the units or themes are planned for a weekly, bi-weekly, or monthly basis. Units are usually non-operationalized concepts, such as animals, holidays, or transportation. Child progress monitoring, when it occurs, is usually confined to pre-post testing on standardized norm-referenced assessments or anecdotal recordings. Advantages of group instruction include the efficiency of teaching many children at once, and opportunities for children to learn through child/child interaction and exploration (Winderstrom, 1986). Unfortunately, specific child deficits are rarely identified and remediated, and when identification does occur, it is usually in the area of behavioral deficits. If developmental delays or significant skill deficits are suspected or identified, the child is usually referred elsewhere for remediation, rather than receiving intervention in the regular preschool placement.

Traditional Individualized Curricula.

In contrast, traditional individualized curriculum, a common characteristic of special education programs, focuses on meeting the needs of an individual child, rather than on meeting needs of a group. Interventions are developed for a particular child and are implemented in small groups or one-to-one instruction, usually in self-contained classrooms. An advantage of traditional individualized curriculum is that it can accommodate behavioral teaching techniques which have been demonstrated to be effective when teaching children who have handicaps

(Greer, Anderson, & Odell, 1984). These techniques include, but are not limited to:

a. Individualized, criterion-referenced assessment to identify a child's strengths and deficits.

b. Individualized program development which prioritizes a child's needs and develops goals and objectives to systematically teach a child.

c. One-to-one instruction, using discrete trial training in self-contained settings.

d. Frequent progress monitoring of the child's skill acquisition.

e. Revision of the teaching program based on the child's progress in mastery of the skill being taught.

Unfortunately, traditional individualized curricula may actually be self-defeating to the process of integration. The emphasis on one-to-one and small group instruction in the special setting of a self-contained class can hinder the student's generalization and transfer of skills to settings other than those in which they are trained (Brown, et al, 1983). Furthermore, the specificity of traditional instruction and discrete-trial programming can train a child to respond appropriately to a limited number of stimuli with a limited number of responses that often do not occur in the natural environment. Typically, this training approach is not ecologically valid; that is, training activities and procedures are "low on the naturalness continuum" (Fey, 1986, p.203). Traditional individualized instruction allows the student to be successful in the special education setting; however, when the school setting is restricted to a segregated self-contained classroom, such instruction actually increases the child's dependency on special education, limits interaction in the community, and prohibits social interactions between children with and without handicaps (Widerstrom, 1986).

Combining the Advantages of Group and Traditional Individualized Curricula into a Comprehensive Model of Service Delivery

In order to optimize the acquisition of skills by students in integrated settings, the strengths of group and individualized curriculum must be merged. At first appearance, it may seem that group and individualized curricula are mutually exclusive within a single setting; however, with careful planning and individualization within group activities, this merger is readily accomplished. Effective grouping in integrated preschools is a process which evolves as children progress and change. The groups which are established today, may not be useful in a month's time since the rate of skill acquisition in preschools is so variable. Likewise, effective grouping for cognitive skills need not be the same group of children who are effectively grouped for self-help skills.

Implementation

Grouping Students for Effective Instruction

The FMS model uses various groupings for training students who have handicaps within the integrated classroom described previously. Learning takes place in both large and small groups. General concepts and classwork organizational and social activities are presented in large groups. Small groups are used to facilitate specific skill development and acquisition. If a child does not progress adequately in a particular skill area in group instruction, the child is moved to one-to-one instruction in that one skill area, while remaining mainstreamed in other skill areas where progress is occurring.

Large Group Instruction. In large group instruction, all children work on similar activities using similar materials and methods within the group. Examples include opening circle, when calendar, names, and other general concepts are taught. Children with handicaps may be taught incidentally and through direct instruction. However, instruction for children who have handicaps is individualized as needed within the large group. Data are collected through unobtrusive tests and probes, usually on a weekly basis. Large group instruction is usually used for opening circle, sharing, social time, snack and gross motor development.

Small Group Instruction. Children with handicaps are taught specific skills identified on their IEP in integrated individualized small groups of 2 to 6, in which nonhandicapped children also share learning experiences appropriate for their skill levels. Occasionally, limited discrete trial training is utilized for children with handicaps within the group. Data are collected on a regular basis, by rotating the children on whom data are collected from day to day. Fewer trials are sampled than during one-to-one instruction, but enough information is still provided to make decisions on child progress. Skills taught in small groups include cognitive, fine motor, receptive and expressive language, pre-academic, social, and self-help skills.

One-to-One Instruction. One-to-one instruction is used for children who make insufficient progress on IEP goals and objectives in large or small groups; when a child's skill deficit is so severe that there is no other child with whom he/she may be grouped; or when therapy may be embarrassing or intrusive if delivered in a group setting (e.g. toileting). During one-to-one instruction, programming usually follows a discrete trial training format utilizing specific stimuli, requiring specific child responses, consequating behaviors with reinforcement and correction procedures, and monitoring continuous child progress. One-to-one instruction incorporates the behavioral teaching techniques which have been previously described.

Incidental Teaching

Incidental teaching refers to the teaching of skills to the child during the times of the day when that skill naturally occurs (Hart & Risley, 1975). Since incidental teaching utilizes materials naturally occurring in the environment, and as much as possible relies upon naturally occurring reinforcement, it is has been found highly successful to teach various skills to preschool children (Striefel & Killoran, 1987).

Developing Effective Groups

The following guidelines have been used successfully by the classrooms implementing the FMS model to determine effective grouping in integrated preschools.

Assess all children. Children with handicaps usually have been assessed on developmental or psycho-educational batteries. If a child has not been assessed, it is recommended that a criterion-referenced test, such as the Brigance Diagnostic Inventory of Early Development (Brigance, 1978) be used as a general skills assessment. Children without handicaps should be similarly assessed, particularly in programs in which the nonhandicapped students are widely diverse in ages and skill levels.

Review or establish existing individual education programs for students with handicaps. The individual objectives for each student should be listed and prioritized. It is critical to prioritize objectives to assure that a realistic number of skills can be addressed. The prioritized objectives for each child with handicaps must be coded as (L), able to be addressed in a large group (7-16) with incidental teaching and probe data; (S), not able to be addressed with sufficient intensity in a large group, but able to be addressed in small groups, (2 - 6), and monitored with regular but flexible data collection; or (O) critical deficit area which demands one-to-one, discrete trial-training. All objectives, whether coded large groups (L), small groups (S), or one-to-one (O), are individualized for student training.

Surveying the skills of nonhandicapped children. The skill needs of nonhandicapped students should be clustered by areas to allow effective grouping (i.e., alphabet, numbers, etc.). Individual need areas should also be identified for each child, so that the skill can be addressed within small groups. In the FMS classes, children without handicaps are not removed from groups for one-to-one sessions, since these sessions are reserved for children with severe learning deficits within groups. However, a program could and should do so, if funding permits.

Selecting or developing a core curriculum. This curriculum should be based on an age-appropriate sequence of developmental goals. Many excellent program ideas are available commercially, and modifications to meet specific needs can be adapted for specific children.

Organizing the daily schedule. After identifying the general groups that are needed in order to address children's needs, the day's schedule should be planned to accommodate various learning centers. The FMS model includes at least two periods each day where 2 to 3 learning centers (small groups) are planned. Children rotate from one group to another at 15-minute intervals. The groups typically address different skills (e.g., one may be cognitive matching skills, another may be a fine motor art activity, and another may be role-playing social skills). Teachers report that the variety of groups allows them to address many different skill areas every day. Also, the make-up of the groups can be recombined for different activities.

Plannning integrated groups. It is important that groups be composed of both children with and without handicaps. Children within a group need not all be at the same skill or need level for a group to be successful (Johnson & Johnson, 1981). A child who is matching alphabet letters can be grouped with children who are learning to identify letters, and on that child's turn he or she can be taught matching instead of letter recognition.

Structure one-to-one sessions. Objectives marked "0" must be addressed by individual adults working with individual children. These sessions, which are usually no longer than 10 minutes in length, should be planned for times when the target child is not scheduled to participate in a large or small group activity in which other priority objectives are being addressed. Aides, volunteers and/or parents will need to be trained by the teacher or another specialist, to conduct these sessions and collect data. Additionally, these sessions must be monitored at least once per week by a qualified professional. The FMS model utilizes a consultant-based system to provide related services to children who have handicaps (Striefel & Cadez, 1983). In this consultant model, the therapist (i.e., speech & language pathologist, physical therapist , occupational therapist) assesses the child who has been referred, develops goals and objectives for that child, provides the teacher with written programs and activities to remediate the deficits, trains a teacher or paraprofessional to implement that activity or program, and monitors the child's progress periodically throughout training.

Program Effectiveness

Preliminary field testing suggests that the FMS model is effective in providing a quality integrated program to preschoolers,their parents and teachers.

Effectiveness with Children

Preliminary results from 2 model classrooms indicate that most children with handicaps participated significantly in mainstream activities, while achieving at the same, or better levels than they did in self-contained classes. Children with communicative disorders participated successfully in regular preschool activities for an average of 86% of the day. Children with intellectual handicaps (mild retardation), participated in regular activities for an average of 84%. Children with severe intellectual handicaps (moderate retardation) participated for an average of 85%. Children with severe multiple handicaps which included two children with autism, participated for an average of 83%, and one of the children with autism wasfully integrated into kindergarten with resource room support. Finally, children with behavioral disorders participated for an average of 96%.

Insert Table 1 About Here

The progress of eleven children was monitored over 12 months, during which each child was in a self-contained program for 6 months, followed by participation in the FMS Mainstramed Classroom for the next 6 months. The same IEP was in effect for each child throughout the 12-month period. As shown in Table 1, children with intellectual handicaps (IH) achieved more objectives in the mainstreamed classes with about 1/5 as many one-to-one sessions than in the self-contained classroom, where microsessions were more frequent. Children with communication, behavior, and orthopedic handicaps (CD, BD, OH) achieved at the same rate in both settings; but the need for microsessions was very significantly lower in mainstreamed classes. Two children with severe intellectual and severe multiple handicaps decreased in achievement in the mainstreamed classroom; however, their rates of achievement remained comparable to rates of achievement of their non-mainstreamed peers who served as control comparison subjects. Also, the dramatic reduction in microsessions may have been too great for these children. In summary, the majority of children in the sample achieved at the same or a higher rate in the mainstreamed classroom, while the need for adults to conduct one-to-one sessions was markedly reduced.

Effectiveness with Parents.

Reactions from parents of children with and without handicaps were obtained through a Likert-type Parent Satisfaction Questionnaire. Parents were asked to respond to five questions indicating the quality of service that they perceive that their child received; one question about their desire to continue in the program, and to six open-ended questions about reactions to working in the classroom, the strengths and difficulties with the program, recommended changes, and any other concerns or observations. Parents listed strengths such as their child's ability to learn from peers, low teacher: child ratio, creative curriculum and personalized programming. Concerns reported prior to mainstreaming (too little attention, learning inappropriate behavior from classmates, etc.) did not materialize.

Effectiveness with Staff.

Feedback on staff satisfaction was also obtained from participating staff at quarterly intervals. Each of the staff in the FMS mainstream classrooms were asked to respond to eight questions indicating how much they agreed or disagreed with each statement. Overall, reactions to the FMS Reverse Mainstreaming classroom were extremely positive from all teachers. The particular strengths of the FMS Model noted by staff included the opportunities to group children for language and social development and for children to learn to attend and work in groups. The difficulties noted with the Reverse Mainstreaming approach were the large amount of work to be done in such little time (summer session was particularly short), lack of materials (due to agency budget restrictions), and the need to train college students and some classroom aides to conduct the specific activities (particularly behavior management). Recommendations for future activities which have been incorporated included screening children without handicaps before entry into the program, organizing class lists and materials at least two weeks before the program begins, and alloting teacher time for paperwork imposed by the model.

Summary

The evaluation of the FMS model is on-going. Many more children will be used in a full evaluation spanning a year's time, and contrasting 3 mainstreamed classes with 2 self-contained classes staffed by the same teachers and specialists. However, preliminary findings reported in this paper indicate that a fully integrated program can be a reality which results in benefits that far outweigh sole reliance upon self-contained programs to serve preschoolers with handicaps.

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Author Notes

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

Table 1

% Objectives Achieved in Each Placement and Corresponding Number of One-to-one Sessions

	$\bar{X}$ % Objectives Achieved			$\bar{X}$ Number One-to-One Sessions Per Week		
Handicapping Condition	Self-Contained	Main-streamed	% Diff.	Self-Contained	Main-streamed	Diff.
IH (n=4)	36.5 Range = (26-44)	40.8 (33-58)	+4.3	35.3	7.5 (2-16)	-27.8
CD/BD/OH (n=5)	61.4 (43-81)	61.4 (50-72)	0	32	4.6 (0-11)	-27.4
*SIH (n=1)	47	33	-14	38	6	-32
**SMH-A (n=1)	41	22	-19	28	11	-17

* Note: $\bar{X}$ achievement for a comparable sample of self-contained SIH children (n=6) wss 39%

** Note: $\bar{X}$ achievement for a comparable sample of self-contained SMH children (n=3) was 27%

TRI-PARTITE MODEL OF TEACHER TRAINING

Paul Adams, Seb Striefel,
John Killoran, Maria Quintero

Introduction

Each winter there are literally millions of people who can hardly wait to "hit the slopes" of the nearest ski area. The ages of skiers range from toddlers to great-grandparents, and the range of expertise varies just as widely as do ages. Ski runs have been developed which can accommodate anyone from terrified first timers, to daredevils with an unconscious death wish. Skiing is a sport described in almost poetic terms by many devotees. However, though many people enjoy skiing, how many of them would be willing to attempt skiing full-speed off an olympic size ski jump?

One might gain considerable knowledge about ski-jumping simply through reading articles written by professional jumpers. One might sit around ski-lodge bonfires listening intently as different jumping techniques are discussed and argued. One might even attend formal classes on the theory and styles of ski-jumping. But even the most self-confident would see this sort of "training" as less than adequate preparation for attempting a hundred meter jump on a steep slope.

In a similar vein, one cannot learn how to swim just by studying books, watching films, or seeing live demonstrations of swimming strokes. Sooner or later, one must actually get in the water and flounder around. Such "performance competencies" require intensive practice before they can be mastered.

Problems with Teacher Training

A profession as complex as teaching requires a great many "performance competencies" as well as numerous "knowledge competencies" (Horner, 1977).

There is, as yet, no consensus on what competencies are required, though there have been several attempts to identify them. The problem of identifying competencies is compounded by the mandate of Public Law 94-142 to educate all children in the least restrictive environment.

Adams, Striefel, Killoran (1985) completed a literature review of the teacher competencies necessary for effective mainstreaming and identified 23 major competency areas. These competency areas include both knowledge and performance competencies. Teachers will likely have been exposed to most or all of these competency areas at some point during their professional training. They will have developed a certain level of expertise in many of the competencies. Most teachers, however, will require additional training if they are to successfully mainstream students who are handicapped. There are two major reasons for this.

First is the fact that different pre-service training programs vary in their emphasis on particular skill areas. Graduates from different programs will likewise vary in their level of proficiency in a given competency area. Second, the knowledge and skill levels adequate for teaching students who are not handicapped will often be insufficient when teaching students who are handicapped.

It is often the case that teachers need to reach a "higher" level of expertise in order to meet the needs of students with handicaps. This necessitates additional work for the teacher in acquiring new knowledge and skills, or in improving existing ones. Ultimately however, there is a substantial benefit for teachers and students alike. As teachers master skills at the level required to successfully teach students who are handicapped, they become more effective in teaching all students.

Far too many teachers, however, lack the skills necessary for effective mainstreaming; there exists a distinct "competency gap" between the skills teachers should have, and those they actually possess (Crisci, 1981, Ringlaben, & Price, 1981, Adams, et al, 1985). Preservice training programs are not preparing new teachers for the challenges of mainstreaming (Masat & Schack, 1981; Stamm, 1980; Adams, et al, 1985). Indeed, one might question whether it is even possible for preservice programs to completely train anyone in a profession as complex as teaching.

Far too often, those people charged with the training of teachers fail to identify and emphasize those teacher competencies which cannot be adequately mastered unless one is able to "get in the water" and practice. Certainly a great deal of practice occurs during student teaching, but such training varies considerably in the nature and quality of supervision provided and the resultant corrective feedback received by the student-teacher. Also, as was mentioned previously, different pre-service training programs vary in the emphasis placed on different skill areas. The net result is that teachers vary considerably in the level of pre-service training they have received in the competency areas identified as essential.

But whatever may be done to upgrade the quality of pre-service training, there are many thousands of currently practicing teachers who need training even more urgently. It is these teachers who are struggling right now to deal with students they were never trained to teach (A Common Body of

Practice, 1980). They need, and in many cases are requesting, inservice training.

In the attempt to train teachers in the necessary competencies, there are some types of inservice training that appear of markedly limited utility (Larrivee, 1981). A few 1-2 hour training sessions at the end of a school day are simply not sufficient to train anything but isolated fragments of the knowledge aspects of the required competencies, to say nothing of the performance aspects of those competencies. Individual reading of journal articles or books may suffice for certain knowledge components, but barely begins to address the performance aspects of the competencies. Teacher participation in 1-2 day workshops may help develop both knowledge components and some performance components of the needed competencies. Workshops, however, suffer from lack of continuity, lack of follow-up, and fragmentation (i.e., learning only inchoate fragments of the necessary body of knowledge). In addition, many of the performance aspects are too complex to teach in a purely didactic fashion. They require experiential learning, and must often be "hand-shaped" in actual teaching situations. Attempting to teach the performance components using only lectures, readings. or discussions, would be equivalent to teaching piano or swimming by the same methods.

The importance of developing high quality inservice training would be difficult to over-stress. Mercer, Forgnone, and Beattie (1978) state that, "no profession in the social sciences can assume that preservice education alone is sufficient for maintaining professional status" (p.30). In a similar vein, Egbert and Kluender (1979) argue that, "it is not reasonable to assume that a given training period can prepare a person for a lifetime in any complex profession" (p.19).

Powers (1983) argues strongly for a major upgrading of inservice training. He states that,

> "While inservice provisions are important in maintaining teacher skills, they are essential to the realization of any significant education reform. If any change-effort in public schools is to be successful then a viable inservice format must be devised that specifically addresses the needs of those who are to serve as change agents.
>
> One of the major current educational reform efforts is the mainstreaming movement. If regular classroom teachers are to successfully occupy roles associated with mainstreaming, inservice must provide opportunities for developing the knowledge, skills, and attitudes prerequisite to the effective integrations of handicapped students." (p. 433).

Peterson (1983), offers the following thought provoking insights regarding the need for quality inservice:

> "The final test of mainstreaming rests with the ability and attitude of the teachers and others who implement the programs; it is they who must translate theory into practice" (p. 25).
>
> "No matter how progressive and innovative an idea, its use becomes limited when there are few practitioners who understand and can properly implement the idea . . . Well trained personnel are at the heart of a successful mainstreaming effort" (p. 25).
>
> "Personnel training is perhaps the most important component of successful mainstreaming. To enroll handicapped children in regular settings or normally developing children in special settings without adequate staff preparation is to invite failure for both staff and children. Individuals asked to assume responsibility for youngsters with whom they have limited or no experience and little formal preparation are themselves handicapped" (p. 42).

Proposal for Inservice Training

To meet the training needs of teachers, a tripartite model for inservice training is here offered. This model allows for three types of inservice training which address three types of training needs that teachers may have. If a teacher has the luxury of knowing beforehand that a certain student is going to be mainstreamed into her/his class, the teacher will want to determine if training is necessary to prepare for the unique needs/problems/limitations of this particular student (e.g., the student may be epileptic, blind, require special adaptive equipment, communicate primarily by signing, have a specific behavioral program in place, etc.). Once a student is actually mainstreamed, there may arise specific problems that require prompt and practical intervention. The teacher will then want technical assistance or brief training that helps resolve the problem (e.g., student is aggressive toward other students, falling behind in academic tasks, socially isolated, etc.). The third type of training in the present model is aimed at long-term development of teacher knowledge and skills. What is required, to meet this training need, is an inservice training program that is comprehensive is scope, but is sequential, includes guided experience, provides practical and readily usable training, begins with a needs assessment, includes periodic assessment of skills to determent mastery, and allows for follow-up in teachers' own classrooms. A comprehensive plan such as this could well include (a) guided reading, (b) brief (1-2 hour) didactic training, (c) short workshops or mini-classes, (d) specially designed summer quarter classes, (e) supervised practica, (f) in-class demonstrations and shaping of teacher behaviors, (g) in-classroom consultation with specialists, and (h) consistent, long-term follow-up. Such a training program would ideally be designed and jointly sponsored by university faculty from special education and regular education departments, and by practicing teachers with experience in mainstreaming. It would necessitate much closer interaction between university staff and teachers in the field. It should include built-in assessment procedures to evaluate efficacy. Teacher trainers would demonstrate in practice (as opposed to pedantically orating about) such competencies as task analysis, individualized instruction, behavior modification, and classroom management. The training should be designed to focus on those major areas which have not typically been a part of the training experience of most regular education teachers (e.g., attitudes, behavior modification skills, exceptional conditions). In addition, since trainers will be demonstrating individualized teaching, specific student needs for training could be identified (the students, in this instance, being practicing teachers). Possibly an "IEP" could be developed to help each student meet personal educational needs. The authors of this paper are not, however, aware of any inservice programs that meet, or even closely approximate, this "ideal". [1]

The following tables should help clarify the tri-partite model of training herein advocated. Table 1 gives an overview of the three types of training, with a comparison of the similarities and differences between each of the three types. Tables 2, 3, & 4 give an overview of the steps for implementing each of the three types of training.

Insert Tables 1, 2, 3, & 4 here.

Tables 5, 6, & 7 list some of the advantages and disadvantages of each type of training. These are intended as representative rather than comprehensive listings. Also included are possible training options that would help give teachers the experiences desired from a particular type of training.

Insert Tables 5, 6, & 7 here.

Summary and Discussion

A significant "competency gap" currently exists between the knowledge and skills teachers should have, and those they actually do have. This gap results, in part, from the increasing demands placed on teachers by the legislative requirement of P.L. 94-142 to educate all students in the least restrictive environment. Pre-service and inservice training programs for teachers have not yet changed and grown sufficiently to prepare educators for the challenges that confront them as they teach students who are handicapped.

Pre-service training programs must reflect the reality that mainstreaming necessitates changes in traditional approacher to teaching. Inservice training must be comprehensive rather than piecemeal, must include in-classroom shaping of teacher behaviors, in-classroom consultation with specialists, and long-term follow-up. All of this will, obviously, be possible only with adequate funding. The authors recognize that this ideal may never be completely achieved in reality. But the attempt to define "the way it ought to be" may serve as a guide in attempts to develop more adequate training programs.

The tripartite model of inservice training discussed in this paper in one step in the direction of upgrading teacher expertise. The foundation of the model is the long-term development of teacher skills through quality inservice training that virtually spans each teacher's professional career. The "student specific training" and the "problem focused training" are seen as supplemental to the "general skills training", though they are both essential types of training if teachers' needs are to be adequately met.

The purpose of this paper is not to recommend specific training programs (i.e., commercially developed training packages, or training sponsored by particular institutions or groups), nor advocate particular ways of changing existent training programs. The paper does advocate the tripartite model of inservice training as an effective vehicle for meeting the diverse training needs of practicing teachers.

The paper strongly advocates that educators at all levels acknowledge the unpleasant reality that we have not been adequately prepared to meet the increasing demands that are expected of teachers. Having acknowledged the reality of the problem, teachers must then confront the true causal issue at its root: Pre-service training does not prepare teachers adequately for the new challenges of teaching, and current inservice training is too limited in both quantity and scope to bridge the competency gap.

It will be largely due to a team effort that the existing competency gap is narrowed and eventually eliminated. Legislators, parents, students, administrators, and teachers must all work together for the common goal of improving education for all children by improving the training opportunities of educators. Teachers must assume a leading role in this effort, for it is they who are ultimately confronted with the daily challenges of mainstreaming.

Table 1

THREE TYPES OF INSERVICE TRAINING FOR MAINSTREAMING

GENERAL SKILLS TRAINING (ongoing)	STUDENT-SPECIFIC TRAINING (pre-mainstreaming)	PROBLEM-FOCUSED TRAINING (post-placement)
a. for all teachers	a. for receiving teacher	a. for any teacher needing help
b. scheduled on a regular basis in response to identified areas for skill development	b. occurs prior to mainstreaming a specific student	b. occurs as needed in response to problem situations
c. extended, long-range (training time measured in weeks or months)	c. short-term, intensive (training time measured in hours or days)	c. short-term, limited (training time measured in minutes or hours)
d. skill centered	d. skill centered	d. problem centered
e. general applicability to many students	e. student specific	e. situation specific
f. aims at over-all upgrading and development of teacher expertise	f. focused on special training necessary for working with a particular student	f. focused on particular problem and situation
g. planned in advance, organized, sequential, responsive to over-all long-range needs	g. planned in advance, organized, responsive to specific anticipated short-range needs	g. planned "on the spot", spontaneous, responsive to immediate needs
h. spans entire teaching career	h. time-limited	h. time-limited
i. assessed via "General Teacher Assessment"	h. assessed via MESA (Mainstreaming Expectations and Skill Assessment)	i. teacher self-assessed via Needs "Request for Assistance"
example: A number of teachers at a school all desire training in methods for evaluating student learning-- a series of workshops are offered on this topic over a several month period.	example: A teacher needs training in how to recognize and manage occasional seizures in an incoming student,and also how to prepare the other students in the class to respond to a seizure.	example: The students in a class are overly solicitous of a student in a wheelchair, to the point that the student is developing some "helpless" behaviors that are of concern to the teacher.

Table 2

GENERAL SKILLS TRAINING (Ongoing)

TASK	RESPONSIBLE PARTY	OBJECTIVES	TOOLS/AIDS
Needs assessment teachers	Training Coordinator as perceived by teachers	Comprehensive assessment of teacher training needs Needs Assessment	General Teacher and
Prioritize needs	Training Coordinator	Based of the completed needs assessments, identify those training needs which are perceived by teachers as most critical	General Teacher Needs Assessment
Select trainer/s	Training Coordinator	Select trainers with the expertise to train teachers in each of the highest priority competency areas	Directory of Local Training Resources
Develop a training plan	Training Coordinator and teacher trainer/s	Develop a long-range training plan which meets the needs of teachers through a variety of training experiences	Teacher Training Manual; & Minimum Levels of Training
Implement the training plan	Training Coordinator and teacher trainer/s	Implement the planned training experiences	
Evaluate the training plan	Training Coordinator	Assess the effectiveness of teacher training by objective measurement of change in specified areas	

Table 3

PROBLEM-FOCUSED TRAINING (Post-placement)

TASK	RESPONSIBLE PARTY	OBJECTIVES	TOOLS/AIDS
Identify a problem	Regular teacher	Specify the particular situation or student behavior that is causing the problem	"Request for Assistance" form
Identify a resource person	Training Coordinator	Select a trainer or consultant with the expertise to assist the teacher with the problem identified	Directory of Local Training Resources
Develop a problem solving strategy	Consultant, or teacher trainer, and teacher	Jointly develop a plan to alleviate the problem	
Implement the strategy	Consultant, or teacher trainer, and teacher	Begin the training, or other problem solving strategy	
Evaluate the strategy	Consultant or trainer	Measure effectiveness of training by change in problem situation or behavior	
Evaluate the need for general skills training	Consultant, or teacher trainer, and teacher	Determine if the teacher could benefit from longer-term training in this competency area	Developing a Comprehensive Training Plan

Table 4

STUDENT-SPECIFIC TRAINING (Pre-mainstreaming)

TASK	RESPONSIBLE PARTY	OBJECTIVES	TOOLS/AIDS
Pre-placement review process	Special education teacher	Assess student readiness for mainstreaming; identify mainstreaming objectives and activities to meet those objectives; make tentative selection of receiving teacher (this to be done by administrator); have the receiving teacher become familiar with student in the environment of the self-contained classroom	MESA
Needs assessment (receiving teacher)	Training Coordinator, teacher, and special education teacher	Assess training needs of receiving teacher to prepare for the advent of the specific student being mainstreamed	MESA
Identify trainer	Training Coordinator	Select trainer capable of training receiving teacher in areas identified	Directory of Training Resources
Develop training plan	Trainer	Develop learning experiences that will train the teacher in the need areas identified	Minimum Levels of Training
Implement training plan	Trainer	Begin the learning experiences identified above	
Evaluate the training plan	Trainer and teacher	Assess the effectiveness of training by objective measurement of change in specified areas	

Table 5 - GENERAL SKILLS TRAINING (Ongoing)

Advantages - best suited for continued upgrading of skills; promotes generalization; provides a framework for incorporating skills learned (in isolation) via other two modes of training.

Disadvantages - expensive in both money and time; teachers may be reluctant to participate; requires extensive planning, coordination, and effort.

Training Options - self study; college courses; workshops; supervised practica; model programs; in-class trainers; lectures; films or videos; guided reading; consultation with specialists; retreats; laboratory experiences; (see Powers, 1983 for more ideas).

Table 6 - STUDENT-SPECIFIC TRAINING (Pre-mainstreaming)

Advantages - Teacher sees child in special education context prior to regular class placement; teacher becomes familiar with child; child is "readied" for regular class via training in specific areas; teacher gets advance training rather than being limited to crisis training.

Disadvantages - may require highly specialized training; may require a substantial amount of teacher time; skills may not generalize to other students.

Training Options - Workshop; one-on-one training; OJT (on the job training) in child's special education class; self study; special education teacher comes with child into regular class to demonstrate hand-shaping; college course.

Table 7 - PROBLEM FOCUSED TRAINING (Post Placement)

Advantages - responsive to teacher request for training (thus teachers are more highly motivated); may reduce or prevent potential problems; when training is effective it demonstrates vividly the value of and need for, further training (and may help "sell" reluctant teachers on the value of inservice); relatively inexpensive; requires minimal planning; provides an opportunity to learn skills needed for specific situations, and the principles learned may generalize to other situations.

Disadvantages - dependent upon teacher request (if no request, no training); has to be done quickly, with little time for planning and preparation; problem-solving may be so specific and limited that skills are learned in isolation; if training is highly specific, the skills may not generalize well to other contexts.

Training Options - consultation; observe/train in model classroom; one-on-one training by specialist; specialist come into class for demonstration and hand shaping; school inservice.

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A Critical Review of Parent Involvement in Mainstreaming

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Running Head: PARENT INVOLVEMENT

This product was developed by the
Functional Mainstreaming for Success (FMS) Project

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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Abstract

Parent involvement in their children's special education is mandated by law. One important component of special education is mainstreaming; however, in spite of the generally low involvement of parents in this process, information in this area has not been consolidated into a form that can be used to study and modify patterns of parent behavior so that a child's probability for success in the mainstream might be maximized. In this paper research on parent involvement in their children's mainstreaming is reviewed along with variables that may promote or discourage parent involvement. Recommendations are offered for future research. Models are reviewed that accommodate different lifestyles and interests of parents, and which include correlating child progress in relation to parent involvement.

A Critical Review of Parent Involvement in Mainstreaming

A primary emphasis of mainstreaming is to provide children with and without handicaps (see Footnote 1), with the opportunities to learn to interact successfully with one another (Blacher & Turnbull, 1983; Schrag, 1984). However, mainstreaming involves more than just individual students and teachers; mainstreaming also impacts parents. Volumes have been written on the involvement of parents in regular and special education (for review, see Foster, Berger, & McLean, 1981; Kroth & Krehbiel, 1982), but very little attention has been devoted to the impact of mainstreaming upon participating parents, even though this involvement is required by the majority of funding agencies for research, development, demonstration and implementation projects, and by P.L. 94-142. In this paper, the research literature on the involvement of parents in the process of mainstreaming is reviewed. Since parent involvement is often a response by parents to their concerns about mainstreaming (Cansler & Winton, 1983; Kroth & Krehbiel, 1982; Winton & Turnbull, 1981), the research into parent concerns is also reviewed. Finally, in a mainstreamed program, the parents of all children are impacted; therefore, the research reviewed includes available data on parents of children without handicaps. The limitations and strengths of research efforts are critically examined, and recommendations for future research activities are discussed.

Definition of Mainstreaming

One of the difficulties with mainstreaming is the lack of consensus about what defines mainstreaming. The commonly-cited definitions of mainstreaming notably lack mention of the roles of teachers, parents, and specialists in the process of mainstreaming (Council for Exceptional Children, 1976; Kaufman, Gottlieb, Agard & Kukik, 1975). In order to provide a common basis for studying the role of parents in this process, mainstreaming is herein defined in accordance with a definition by Striefel, Killoran, Quintero, & Adams (1985), which portrays it as a continuing process, rather than a discrete event, which includes the instructional and social integration of children who have handicaps into educational and community environments with children who do not have handicaps (Johnson & Johnson, 1981; Kaufman, Gottlieb, Agard & Kuker, 1975; Reynolds & Birch, 1982; Turnbull & Schultz, 1979; Weisenstein & Pelz, 1986; Zigmond & Sansone, 1981). Mainstreaming must also be a Child Study Team decision (Brown, Falvey, Vincent, Kaye, Johnson, Ferrara-Parrish & Gruenewald, 1979; Nash & Boileau, 1980), and must consider a continuum of least restrictive placement options where appropriate interactions between children with and without handicaps can be maximized to prepare the child with handicaps to function in current and future community environments (Deno, 1973; Hughes &

Hurth, 1984; Johnson & Johnson, 1981; Stainback, Stainback, & Jaben 1981; Taylor, 1982; Thomason & Arkell, 1980). The decision to mainstream must include preparation, support, and delineation of responsibilities of students, parents, regular and special education teachers, administrators, and support personnel (Cansler & Winton, 1983; Guralnick, 1983; Hughes & Hurth, 1983); and these activities must occur without major long-term disruption of ongoing educational activities of children with handicaps (Cooke, Ruskus, Appolonia & Peck, 1981; Hanline, 1985; Strain, 1983).

In summary, the mainstreaming process includes: (a) preparation for participants, (b) delineation of the responsibilities of all parties involved, and (c) post-placement monitoring and continued involvement. Research efforts in each area of emphasis in relation to parents will be examined.

Characteristics of Research

Dependent Measures

Parent attitudes and self-report data expressed on questionnaires are primary dependent measures in many studies and reports about parents in mainstreaming (Kroth & Krehbiel, 1982; Price & Weinberg, 1982; Turnbull, Winton, Blacher & Salkind, 1983; Cansler & Winton, 1983; Vincent, Brown & Getz-Sheftel, 1981). One limitation of using attitudes as a dependent measure is the difficulty in defining an attitude. Jones, Jamieson, Moulin and Towner (1981) point out that it is insufficient to infer an attitude only from the responses provided by individuals on questions (written or oral) or only from direct behavior observed by the experimenter. An attitude represents a multidimensional response to the interactions of the individual with the environment. In the case of mainstreaming, factors such as age, prior experiences with mainstreaming, handicapping condition, and a multitude of other social and personal variables are all potential parts of this multidimensional response (Jones et al, 1981).

Self-report data can also be difficult to interpret since self-reports do not consistently correlate positively with observed behavior (Salend & Johns, 1983; Skinner, 1957). This limitation could be reduced by supplementing self-reports with direct observational data to document behavior toward persons with handicaps. However, natural parent behavior occurs most often in private sectors where observers are intrusive and can significantly alter behavior. Additionally, observations of parent behavior in natural rather than contrived settings (i.e., supermarket, church, etc.), pose serious logistic and financial limitations for the researcher.

Since observable parent behavior is difficult to validate as a true representation of typical behavior, self-report measures remain the data of choice by researchers who study parent behavior. Alternatives to this methodology suggested in special and regular education literature include parent attendance at school meetings and other functions (Kroth & Krehbiel, 1982), providing snacks, making crafts at home, or helping the teacher by preparing materials (e.g., cutting out shapes, etc.) (Honig, 1979; Pasanella & Volkmor, 1981; Weinberg, 1982). The value of these measures of parent participation and involvement has yet to be tested, but they hold promise for use in parent participation studies as observable data on parent responses to mainstreaming.

Handicapping Condition of the Child

Within a sample of parents of children who have handicaps, parent participation and concerns can differ on the basis of their children's different handicapping conditions. For example, in one study (Mlynek, Hannah & Hamlin, 1982), parents of learning disabled children reported that if mainstreamed, their children would cope better with the outside world and would be better accepted by nonhandicapped persons. In another study, parents of children with Down syndrome were reported to be more supportive toward a mainstreaming project than parents of children with retardation, not associated with Down syndrome (Strom, Rees, Slaughter & Wurster, 1980).

Age of the Child

The age of the offspring with a handicap has also been found to be a variable affecting the report that parents provide about mainstreaming (Cansler & Winton, 1983; Dougan, Isbell, & Vyas, 1979; Suelzie & Keenan, 1981). Parents of preschool children who have handicaps are more supportive of mainstreaming programs than parents of elementary-age and teenage children (Cansler & Winton, 1983; Suelzie & Keenan, 1981). Parents of elementary-age and older children who have handicaps are also more likely to perceive their neighbors, and the community in general, as less accepting of the child in age-appropriate social roles (Suelzie & Keenan, 1981). Support for mainstreaming appears to decrease over time; i.e., parents of handicapped elementary-age children are reported to be more accepting of mainstreaming than parents of teenagers, while parents of handicapped teenagers are more accepting of mainstreaming than parents of handicapped young adults. These views may reflect behaviors learned prior to legislation of P.L. 94-142 when educational options were not available for students with handicaps. It may also suggest that parents of older children are less inclined to challenge school personnel after years of confrontations and may be less energetic in the face of new trends and new obstacles (Dougan, Isbell & Vyas, 1979;

Turnbull & Turnbull, 1978; Winton & Turnbull, 1981). Finally, it may reflect how parents become more resistant to mainstreaming as their children's delayed development becomes more apparent in comparison with nonhandicapped peers over time (Wolfensberger, 1980).

Summary of Research Characteristics

Parents of children with handicaps have often been studied as a homogeneous group; however, differences do exist among parents across variables such as the child's age and the handicapping conditions (Kroth, 1980; Kroth & Krehbiel, 1982; Simpson, 1982). More studies are needed which use samples that are controlled across characteristics such as age and handicapping condition of the child, as well as other variables, such as levels of parental education, previous experience with mainstreaming, and ethnic or racial background. Additionally, longitudinal research is needed to identify the changing pressures upon parents of children with handicaps who are mainstreamed, become older, and are more visible in the community by virtue of increased exposure to mainstreaming and increased deinstitutionalization at state and local training centers.

Preparation of Parents for Mainstreaming:

Parent Concerns

The study of parent involvement often begins with an examination of parent concerns (Pasanella & Volkmor, 1981; Noel, 1984; Stetson, 1984; Bloom & Garfunkel, 1981; Kroth & Krehbiel, 1982). Concerns can be stimuli that set the occasion for parent behavior that supports or hinders mainstreaming. Concerns can arise from a number of variables which have been identified in the literature, as follows.

Knowledge About Mainstreaming

The mainstreaming concerns of parents of children with and without handicaps often stem from lack of knowledge about what is meant by mainstreaming (Edgar & Davidson, 1979; Turnbull, Winton, Blacher, & Walkind, 1983). Turnbull, et al. (1983) reported that 42% of the parents of children with handicaps in their study had not heard of mainstreaming prior to being contacted to be part of a research study. In the same study, only 33% of the parents of children without handicaps had received information on mainstreaming prior to their child's participation in a mainstreaming program. Prior to mainstreaming, 76% of parents of nonhandicapped children favored placing students with mental handicaps in special, rather than regular classes. However, with their children's participation as classmates in a successful mainstreaming program, parents of children without handicaps reportedly became supportive of integration. Similar findings have been reported by others (Price & Weinberg, 1982; Vincent, Brown & Getz-Sheftel, 1981).

Quality of Education

Parents of children with handicaps report that the regular classroom teacher may be too busy to provide sufficient time and attention to their children (Bloom & Garfunkel, 1981; Mlynek, Demerest & Vuoulo, 1983). Similarly, parents of children without handicaps express concerns over the quality of education their children might receive because a teacher may devote more time to meet the more demanding needs of the child with handicaps (Bloom & Garfunkel, 1981; Demerest & Vuoulo, 1983; Karnes, 1980; Turnbull & Turnbull, 1982). Prior to mainstreaming, parents of children without handicaps report that a mainstreamed program may lack creativity, stimulating learning experiences, and playmates for their child (Winton, Turnbull & Blacher, 1983).

In response to these concerns, some programs have used peers as buddies, models, confederates (Odom, Hoyson, Jamieson, & Strain, 1985; Taylor, 1982) and tutors (Jenkins & Jenkins, 1982; Taylor, 1982). Additional adult assistance has been obtained via paid aides and volunteers (Jenkins & Jenkins, 1982). The utility of these methods in freeing time for teachers to devote to other duties or students has yet to be documented fully; however, preliminary studies in the use of peer buddies and tutors suggest that start-up costs, time, and effort are offset by the greater benefit of providing opportunities for child/child interactions, for the development of age-appropriate social skills (Arick, Almond, Young & Krug, 1983), and for cost efficient skill acquisition when compared with the same achievement under the supervision of an adult (Jenkins & Jenkins, 1982). Unfortunately, studies on the use of peers as interveners are marred by the frequent omission of generalization measures which could demonstrate if children actually acquire skills that are used beyond the training setting (Odom, Hoyson, Jamieson & Strain, 1985). Considering the time that it takes to train children to function as interveners, educators will need to be convinced of the utility of this method for providing them more time to devote to other activities or students.

Similar questions arise with the use of parents in a program. Parents are generally untrained and require supervision to be effective, useful trainers in a classroom (Foster, Berger & McClean, 1981; Kroth, 1980; Kroth, & Krehbiel, 1982). Additionally, programs that require parents to participate in order to assure services for a child find difficulty in enforcing this contingency in early education (Foster, Berger, & McClean, 1981; Leiberman, 1986; Winton & Turnbull, 1981), and are in violation of P.L. 94-142 for school-age children (Demerest & Vuoulo, 1983; Leiberman, 1986), since a free, appropriate public school education cannot be denied to a child because of parent reluctance to participate. The use of aides may be a more successful solution (Semrau, LeMay, Tucker, Woods, & Hurtado, 1982), but the cost of paying all of the extra personnel that may be needed is a serious administrative consideration (Jenkins & Jenkins, 1982). Volunteers, if available, can be a viable option for many programs (Arick, Almond, Young & Krug, 1983).

Support Services

The parents of children with handicaps also report concerns that special service programs (motor, language, etc.) for their child will be reduced or eliminated by mainstreaming (Bloom & Garfunkel, 1981; Demerest & Vuoulo, 1983; Pasanella & Volkmor, 1981; Schanzer, 1981). Although reduction of services can be a realistic trade-off when a child moves into a regular program, parent education agencies have attempted to educate parents about the fact that services dictated by the child's needs and documented on an IEP cannot be refused (Elbaum, 1981; Pasanella & Volkmor, 1981). The impact of this type of training on parent behavior has not been researched closely. However, parent training about rights and due process appears to have impacted educators, as indicated by increasing information and training for educators to assure that they safeguard the rights of parents and students, thereby reducing the chances of parent-initiated litigation (Bureau of Exceptional Children, 1980; Elbaum, 1981; Pasanella & Volkmor, 1981; Reynolds & Birch, 1982; Simpson, 1982; Vandiviere & Bailey, 1981; Weinsenstein & Pelz, 1986).

Social Isolation

Prior to mainstreaming, parents of children with handicaps commonly express concerns that their children will be teased by others in the class, or will be ostracized during informal class activities (Bloom & Garfunkel, 1981; Demerest & Vuoulo, 1983; Mlynek, Hannah & Hamlin, 1982; Schanzer, 1981). This can occur when a child is excluded from a group activity because of the limitations of the handicapping condition (Demerest & Vuoulo, 1983), or when others provide too much assistance thereby limiting the child's opportunity to develop more independence (Bloom & Garfunkel, 1981; Demerest & Vuoulo, 1983).

Parents of children with handicaps also report concern over the potentially negative reactions of other parents to the mainstreaming of the student who has a handicapping condition (Cansler & Winton, 1983; Demerest & Vuoulo, 1983). This concern has been related to the isolation which parents report in relation to the community of other parents (Dougan, Isbell,& Vyas, 1979; Marion, 1981). Integrated parent meetings which include all parents may be a useful start toward reducing these concerns; however, data have not been collected on the social adjustment of parents to mainstreaming as a result of participation in this activity (Price & Weinberg, 1981; Striefel, Killoran, Quintero, 1985b; Cansler & Winton, 1983). Additionally, one report suggests that integrated meetings may actually be difficult for the parent of a child with handicaps, because the handicapping condition is more obvious when contrasted with the abilities of children who do not have handicaps (Turnbull & Blacher-Dixon, 1980).

Grading

The possibility of unfair grading is another reported concern of parents of children with handicaps (Mlynek, Hannah & Hamlin, 1982). Additionally, increasing numbers of children with severe handicaps are being mainstreamed into activities where grades are not typically given (e.g., recess or lunch), (Zigmond & Sansone, 1981), but in which progress must be documented. A variety of options discussed by Weisenstein and Pelz (1986), Bender (1984) and Butler, Magliocca & Torres (1984) provide direction for methods to effectively gauge student and family progress. These options include modifying test construction (e.g., larger lettering, auditory vs. written questions, varied format); modifying test grading (e.g., de-emphasizing timed-tasks, grading effort and quality separately); modifying the recording of grades (e.g., multiple grades on report cards); and evaluating progress only on IEP goals and objectives. Progress measures for non-academic mainstreaming must still be developed.

Inappropriate Models and Safety Issues

Parents of children without handicaps report that their children may learn inappropriate behaviors from children who have handicaps (Gresham, 1982; Cansler & Winton, 1983; Price and Weinberg, 1982). However, observations of children in mainstreamed settings indicate that children without handicaps either do not imitate less mature behaviors, or if they do, they quickly extinguish these imitations when no rewards are given for behaving inappropriately (Cansler & Winton, 1983; Price & Weinberg, 1982). With exposure to a mainstreaming program, this concern of parents diminishes (Price & Weinberg, 1982; Quintero & Striefel, 1986).

Parents of children with handicaps express concern over inadequate transportation (buses, cars, etc.), furniture (special chairs, desks, blackboards, etc.), and building structure (ramps, wide halls, bathroom stalls, etc.) (Bloom & Garfunkel, 1981). Although physical barriers cannot be used as a legal reason for denying a child access to a free, appropriate public education in least restrictive environments, they are an unfortunate reality. A significant number of parents are unaware of the fact that physical barriers cannot be used to deny appropriate services in least restrictive environments (Pasanella & Volkmor, 1981; Quintero & Striefel, 1986; Elbaum, 1981).

Parents of children without handicaps occasionally express concern about their children's safety when in proximity of children with handicaps. Inadequate social skills of some children with handicaps can result in potentially unsafe encounters such as physical aggression. This problem can be aggravated by the poor communication skills of the child with handicaps, resulting in nonreinforcing experiences for children without handicaps, who attempt to initiate social interactions (Gresham, 1982). It is important for educators to determine whether children who are aggressive or exhibit other potentially harmful behaviors are suitable candidates for mainstreaming.

It has been noted that parents of children with handicaps express concern that other children may encourage their child to engage in inappropriate, harmful or dangerous acts which could humiliate or even endanger a child. In response to this situation, peer buddies have been successfully used to protect the target child, as well as to model appropriate behaviors (Odom, Hoyson, Jamieson & Strain, 1985).

Methods for Addressing Parent Concern About Mainstreaming

One commonly-cited method for addressing concerns about mainstreaming is through a better exchange of information between parents and teachers (e.g., Kroth & Krehbiel, 1982; Pasanella & Volkmor, 1981). Several studies have addressed: (a) mode of communication, (b) timing of the information in relation to mainstreaming, and (c) content. Few of the papers reviewed constitute controlled research studies. Although all of the studies considered in this review include recommendations about parent communication, only those sources which manipulate and/or study particular methods or procedures will be discussed.

Mode of Communication

An ongoing exchange of information between parents and schools may best be established through regular contacts such as written notes concerning the child's progress; occasional telephone calls to parents; brief photocopied materials such as happy faces or symbols indicating good or bad days; and by providing more extensive materials such as handbooks, programs or articles on current issues in special education which seem appropriate for parental reading (Krehbiel & Sheldon, 1985; Kroth

& Krehbiel, 1982; Pasanella & Volkmor, 1981; Price and Weinberg, 1982; Weisenstein & Pelz, 1986). Turnbull et al. (1983) examined several methods of communicating with parents and reported that parents preferred printed material as long as the material was relevant, readable, and understandable. The authors stressed that professionals often use technical vocabulary or jargon which is confusing and uninformative to parents.

Parent involvement groups are another method for communication between the teacher and parents. Group work has the advantage of providing services to a number of people at the same time, and can be informational, educational, or therapeutic (Kroth, 1980). Karnes (1980) also recommends that parents of children with handicaps be included in academic activities and be given specific responsibilities in school functions, as is the case with other parents.

Timing of Information About Mainstreaming

In order to provide information and enlist support from parents it is necessary to provide timely and accurate answers to their questions. One strategy used by Cansler and Winton (1983) was to have a special spring orientation meeting for all parents (of children with handicaps and without) before mainstreaming occurred in the fall. At that meeting, the mother of the child with handicaps who was entering the program offered to answer any questions or concerns about her child. After the orientation meeting, the teachers kept in close contact with all parents through summer home visits, where parents were given an opportunity to discuss more questions and concerns about the new student in their child's classroom. Although few questions were asked directly of the parent of the target child, many parents posed questions about the child during the teacher's home visits. After mainstreaming, this program reported that a comfortable atmosphere was created for both the child with handicaps, the parents of that child, and the staff involved in the program. Unfortunately, reactions to mainstreaming were not documented before the intervention so that a post-placement comparison could be conducted, and a control group without intervention was not utilized. These omissions make it difficult to conclude that the intervention was the critical variable in a reportedly favorable outcome.

Additionally, no studies have examined the possibility that such attention to mainstreaming, prior to the process, might alarm parents by raising potential areas of concerns which may not have been considerations without such attention focused upon them (Quintero, & Striefel, 1986). It may be useful for an agency to consider having information available to parents of children without handicaps, and timing the distribution of this information according to interests expressed by the parents.

The timing of communication with parents of children with handicaps must also consider how prepared a parent may be to accept the information (Krehbiel & Sheldon, 1985). The stages of acceptance and emotional adjustment which have been documented in the adjustment of parents to the presence of an offspring with a handicap suggests that information may be given to parents, but the parents may not be at a point of acceptance or understanding to assure the effectiveness of the communication (Marion, 1981). It may be necessary to repeat and/or reformat information as parents progress in the acceptance of their role as parents of a child with handicaps (Cvach & Espey, 1986; Krehbiel & Sheldon, 1985).

Content

The most common information about mainstreaming given to parents is usually embedded within written material that encompasses the process of special education, and includes an explanation of parents' rights under P.L. 94-142, descriptions of the process of special education (referral, evaluation, IEP's, etc.), and methods of due process (for examples, see Bureau of Exceptional Children, 1980; Dept. of Public Instruction, 1984). Within documents such as these, references to mainstreaming are brief, and generally lacking specificity of how parents can be active participants in the process.

Specific information about mainstreaming is rare in the parent literature. Within a general parent training package, Elbaum (1981) discussed the principle of least restrictive education, provided questions to alert parents to issues that they should address (e.g., how can mainstreaming be included within a child's daily schedule), and suggested methods of participation (e.g., joining the child on field trips). More specific information about mainstreaming was presented by Breshears-Routon (1980) in a parent brochure exclusively about preschool integration. This brochure defined mainstreaming and integration, and answered common parent questions. A similar set of brochures about mainstreaming was developed by Striefel, Killoran and Quintero (1985a, 1985b) to answer questions of parents of chhildren with and without handicaps. The questions addressed by Breshears-Routon (1980) and Striefel, Killoran and Quintero, (1985a, 1985b) were compiled from literature reviews and from parent interviews; however, it is unclear whether all of the questions are necessary, relevant or sufficiently comprehensive to address a broad range of parent concerns and needs.

An alternate strategy for disseminating information involves conducting a parent needs assessment to identify areas of interest and need, then implementing a parent-training program to address these needs (Krehbiel & Sheldon, 1985; Kroth & Krehbiel, 1982; Project Kids, 1978; Vandiviere & Bailey, 1981). This process not only pinpoints concerns, but it also provides a self-report method for assessing the utility and impact of parent information materials and procedures. The utility of needs assessments to identify efficient ways to allocate limited resources has been demonstrated by several authors (e.g., Brough, Thompson & Covert, 1985; Herschkowitz, 1976).

Delineating Parent Responsibilities in Mainstreaming

It is often assumed that all parents of children with handicaps are equally interested in becoming involved in their child's education. In reality, although the law mandates that parents be allowed to become actively involved in the development and approval of the Individual Education Plan (IEP), the level of participation remains a personal matter. Lusthaus, Lusthaus and Gibbs (1981) conducted a survey in which 50% of the parents they surveyed indicated that they wanted to serve only as information providers for their child's teachers and for the professionals who delivered services to their child. Parents chose to be decision-makers only on discrete issues such as medical services, records kept about their child, and school placement changes. Several reasons may account for why parents may choose such a limited degree of involvement. In examining the reasons for parent reticence in participating in programs, Cansler and Winton (1983) determined from parent reports that mainstreaming was frequently the first time that parents of young children actually compared their child directly with nonhandicapped children of the same age. For example, one parent indicated that it was difficult for her to attend a parent meeting for learning to handle the behavior difficulties of three-year-olds. She reported that she wished her child could be capable of such misbehaviors. This report, in conjunction with research reviewed previously indicating decreasing parent support for mainstreaming as a child becomes older, emphasizes the need for more information about desired participation in mainstreaming by parents of children at different ages (preschool, school-age, etc).

Parents can also resist involvement because they have become too involved in the past (Winton & Turnbull, 1981). Since mainstreaming is a relatively new activity for many schools and teachers, parents have been called upon to fill an informational gap ranging from providing information about the child's history and medical services, to demonstrating management techniques and training personnel (Cansler & Winton, 1983). Winton and Turnbull (1981) hypothesize that the extensive involvement of some parents in their child's education (often stemming from fear that appropriate services will not be available otherwise) is overwhelming to many parents and results in less involvement over time.

Conflicts can develop when school personnel expect parents to become involved in other ways, such as through classroom assistance, but the parents do not desire this level of involvement (Foster, Berger, & McLean, 1981; Kroth & Krehbiel, 1982; Krehbiel & Sheldon, 1985). Conversely, if a school assumes that all parents desire only to be involved in an informational capacity, problems can arise when the parent who wishes to be more active cannot be accommodated (Dougan, Isbell, & Vyas, 1979; Turnbull & Turnbull, 1978).

Models of Parent Involvement

Since the desire for different degrees of involvement is reported by different parents, some authors have redefined parent involvement to encompass a continuum of options which allow choices for parents to assume varying levels of responsibility in the process of their child's education (Bauer & Shea, 1985; Cvach & Espey, 1986; Foster, Berger & McLean, 1980; Kroth, 1980; Turnbull & Summers, 1985). Although a specific model does not exist for mainstreaming, suitable models for parent participation will be reviewed.

The precedent for a broader definition of parent involvement was established and discussed by Kroth (1980) in the Mirror Model of Parental Involvement. In this model, four levels of involvement are outlined, along with skills needed by parents at each level, and methods for professionals to facilitate parent acquisition of those skills. The model is based on the assumption that parents have strengths to contribute to a program, needs related to the child that must be identified and met, and various other obligations that must be met (e.g., other family needs, work, etc). Although the model does not specifically focus on mainstreaming, the framework is applicable to parent involvement during the process of mainstreaming. In the Mirror Model, parents' needs are listed in a four-level system. Level One, the level of least involvement, is one in which parents are informed of their rights, school policies, child assignments; and they sign necessary releases, such as IEP forms; and they receive school handouts, etc. In Level Two, parents exchange home information with the school, monitor child progress, and may conduct some simple programs. In Level Three, parents are extensively involved within the school system, parent groups and systemic decision-making. Parents in Level Four are personally involved in therapy and/or intensive education involving their child. All parents are participants in Level One activities; however, fewer parents participate in the other levels because of parent emotional needs (e.g., not fully accepting the child's handicap) and/or other obligations (family or work needs which conflict with participation). Krehbiel & Sheldon (1985) have expanded the model to include a continuum of teacher activities that correlate with the levels of parent involvement.

Lack of flexibility in defining the roles of parents has been a target for criticism by Foster, Berger, and McLean (1981). Their approach to parent involvement is not as carefully developed as the Mirror Model; however, it encompasses a variety of options which address different needs and concerns, and which take into account the different family structures in modern society (e.g., single parents, working parents, etc.). Professionals who attempt to involve a parent who opts for lesser involvement may need to accept that parent's decision, without assuming that they have failed in not involving the parent further. Foster, Berger and McLean (1981) propose that the whole family be considered as a unit, so that the limitations of parent involvement can be better understood in the context of other pressures and obligations. A broader set of options can then be tailored for specific families.

A similar philosophy supports the research and practices of Project Kids (1978). This program approaches parent involvement using Systems Theory in which parents are considered as individual people who happen to be in a parenting capacity. The Project Kids parent needs assessment emphasizes individual learning programs which allow parents options for involvement by developing a plan for parent training and involvement which is individualized for each family. The impact of the model was evaluated through parent consumer satisfaction and through parent and teacher ratings of child progress (Carter, 1978; Carter & Macy, 1978). Parent consumer satisfaction ratings on questionnaires indicated a positive response to the program, and a self-reported improvement on competencies learned through parent training. Parent evaluation of child progress were consistently higher than teacher evaluations. Specific data on parent attendance and skills acquired would have been valuable contributions to the program's statement of impact. The authors also point out that their parent program may be costly to implement in agencies lacking extensive funding for parent services.

A similar plan for parent involvement is proposed in Bauer and Shea's (1985) parent involvement system. This system has seven levels of involvement ranging from Level One, characterized by written and telephone communication, through Level Seven, nonschool activities. Cvach & Espey (1986) point out that the model requires that professionals view any level of involvement as a success. One way to shift the focus away from type of involvement as a measure of participation is to draft an Individualized Parent Involvement Plan (Bauer & Shea, 1985) that delineates the level of involvement planned, and also acquaints parents with other options for involvement. Compliance with the goals in the plan can be used as a measure of involvement, without comparing types of involvement across different family systems.

Continued Parent Involvement: Post-Placement Support

The definition of mainstreaming cited in this review specifies that roles and responsibilities should be identified and assigned to parents. Although parent involvement implies that the process is ongoing, very few sources offer suggestions for continuing involvement after the child's placement. The Mirror Model of Parental Involvement (Kroth, 1980) provides a guide for continuing involvement, beginning with the activities identified for Level Two (exchange of information with the school, monitoring child progress, and conducting some programs). Additionally, ongoing parent activities are designed to meet the needs identified in written needs assessments. Cansler and Winton (1983) reviewed feedback from early intervention projects funded by the Handicapped Children's Early Education Programs (HCEEP) and concluded that parents should be assigned to help prepare their children for mainstreaming and to monitor their children's progress. Child preparation included activities such as accompanying the child during a preliminary school visit and talking with the child about the change. Progress monitoring included noting behavior changes in the home and communicating with the school about generalization of learned behaviors to the home. In order to formalize the process of ongoing involvement, Reynolds and Birch (1982) suggested that specific parent activities be included in the child's IEP. They were cautious to note, however, that this inclusion in the IEP is not required by law and may be resisted by many educators. A similar concern can be raised about the implementation of Individualized Parent Involvement Plans (Bauer & Shea, 1985); however, if such plans are demonstrated to result in parent participation which is satisfactory for teachers and parents, and which correlates with child improvements, then the concerns may be outweighed by the benefits.

In light of these reports, a significant amount of responsibility for continued parent involvement will rest upon school personnel (Krehbiel & Sheldon, 1985). Consequently, personnel training activities will need to include information about parent adjustment to mainstreaming and the difficulties which parents may face when their child is placed in the mainstream (Cvach & Espey, 1985; Krehbiel & Sheldon, 1985; Kroth & Krehbiel, 1982). This information may help professionals to better understand the reluctance of some parents to attend activities which may be punishing from a parent perspective. Furthermore, since professionals have access to community resources, it is the professional who is in the position to give a parent information about parent support groups and resources (Reynolds & Birch, 1982). The data from research programs that implement a comprehensive approach for involving parents should be contrasted with information from programs not using such a system to determine impact upon parent involvement. Possible outcome measures could include parent attendance at activities, parent degree of volunteering and child academic and social progress.

Discussion and Recommendations

The preparation, delineation of responsibilities, and post-placement support for parents in the process of mainstreaming is a form of parent involvement which has received limited attention in the research literature; however, as mainstreaming becomes more commonplace in public schools, and as parents are expected by professionals to assume active roles in their children's educations, the need arises for a systematic method of effectively involving parents in the process of mainstreaming. The existing literature on parent involvement, and the preliminary attempts to standardize parent training programs that involve mainstreaming provide a framework for establishing a model for parent involvement in mainstreaming. Such a model should include:

1. A method of assessing parent interests and needs prior to mainstreaming so that specific concerns can be addressed. Impact of the method used for addressing needs can be assessed on the same instrument. This instrument could also be effectively used to match the desired level of involvement with available options for involvement. The framework described by Kroth and Krehbiel (1982) in the Mirror Model of Parent Involvement provides a promising format for establishing and documenting levels of parent involvement in mainstreaming.

2. A variety of options for parent involvement with specific activities listed for teachers to use as a guide for sharing with parents. These options should include the flexibility advocated by Foster, Bergen and McLean (1981) to accommodate non-traditional family structures (single parents, working parents, etc.). Ideally, a list of potential involvement activities could be generated jointly by teachers and parents, and organized into an Individualized Parent Involvement Plan (Bauer & Shea, 1985).

3. An active teacher training program to acquaint teachers with the model for parent involvement which will be used by a particular agency or system. This training must include the available information on parents' varying desires for involvement, and a study of the variables which determine parent involvement (Cvach & Espey, 1986; Kroth & Krehbiel, 1982).

One area of parent behavior which has yet to be investigated is how parents change as a result of participation. A similar line of research upon teacher behavior indicates that when teachers are presented with an innovative activity, they demonstrate seven levels of behaviors indicative of increasing commitment and involvement (Hall, Loucks, Rutherford, & Newlove, 1975). These levels are non-use, where no action is taken by the teacher; orientation, where the teacher seeks information; preparation, where the teacher prepares to use the innovation; mechanical use, where the innovation is first used; routine and refinement, where use becomes established and minor changes may be made by the user; integration, where the user coordinates with others to use the innovation; and renewal, where the user modifies the innovation to provide more effective methods. The levels of use are, in turn, correlated with levels of concern that range from no desire to participate in the activity, to user-initiated ideas for modifying the system (Hall & Loucks, 1978). A similar sequence may be useful for explaining parent behavior; i.e., initially, parents may demonstrate reluctance to participate in the innovation known as parent involvement in mainstreaming. With increasing information and participation, parents may move through a progression of behavior similar to the progression documented by teachers. A demonstration of such similarity would contribute greatly to research on parent involvement by providing a context for different parent behaviors, and by providing information to professionals that could help them to better predict and understand the behavior of parents.

The use of formal procedures to plan and direct parent involvement creates a system from which interventions can be evaluated and modified as needed. An agency or program that does not work within an organized framework may find it difficult to identify successful features of a program, or features which need to be modified. The ability to identify critical features of a program becomes important in light of the great sums of money which are invested annually in parent training and involvement programs. For example, the Handicapped Children's Early Education Program (HCEEP) of the U.S. Department of Education demands that every funded program include a parent component describing the program's philosophy, methods of implementation, and methods of evaluation. At the preschool and school-age level, P.L. 99-457 and P.L.94-142, respectively, heavily emphasize that parents are to be included in the process of education in the least restrictive environment. However, research to support and justify the outpouring of money into parent programs is often flawed, and does not advance the field by demonstrating effectiveness of some methods over others. In addition to using a formal model as a framework for guiding parent involvement efforts, the following recommendations are suggested as methods to consider in future parent studies:

1. Define mainstreaming as an ongoing process in which parents are to be prepared and have specific pre- and post-placement responsibilities.

2. Systematically examine factors in parent communication such as mode of communication, timing and content, in order to identify cost-effective methods which yield desired results.

3. Assess child progress in conjunction with parent behavior. In the final analysis, the purpose for parent involvement in mainstreaming is to create a better educational experience for the child. The true test of effectiveness of a method is in the impact it effects upon participating children.

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Author Notes

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U. S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U. S. Department of Education and no official endorsement by them should be inferred.

Footnote

[1] The term, child(ren) with handicaps, is used throughout this paper in accordance with the position advanced by The Association for Persons with Severe Handicaps, which states that the term handicapped child, emphasizes the handicapping condition, whereas the term child with handicaps, emphasizes that the individual is a person, who also has a handicapping condition.

Preparing Regular Classroom Students for Mainstreaming:

A Literature Review

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This publication was supported by grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U. S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

Running Head: Preparation for Mainstreaming

Key Words:

This product was developed by the
Functional Mainstreaming for Success (FMS) Project

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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Abstract

As the mainstreaming of children with handicaps becomes an increasingly important goal, so too does the issue of how to facilitate interactions between children with and without handicaps in the mainstream setting. One potential focus for improving interactions is the child without handicaps whose attitudes and behaviors will play an important role in the success of mainstreaming. Such a focus could include the implementation of simple awareness activities - such as a puppet show about a child who is mainstreamed into a regular education classroom - to more extensive skill building activities such as role-playing a special needs student's first day in a mainstream setting. In the present paper, a variety of activities which have been suggested as a means of making the child without handicaps a more active partner in the mainstreaming process were initially viewed. While many sources for activities were identified, and there appeared to be general social consensus regarding the efficacy of such activities, there is a paucity of data which empirically demonstrate the usefulness of these activities. While preparation activities thus appear to have adequate social validation, and could be a useful component of a mainstreaming model, additional research is necessary to establish their effectiveness.

Preparing Regular Classroom Students for Mainstreaming: A Literature Review

Mainstreaming is a concept that has received increasing attention since the implementation of Public Law 94-142 (Adams, Striefel, Frede, Quintero & Killoran, 1985). PL 94-142 calls for provision of a free and appropriate education for all children with handicaps in the least restrictive environment. Education in the least restrictive environment (LRE) means that the child will be provided with an educational program in a setting which can meet the child's needs with the necessary support from special educational personnel, while placing the child in contact with regular education students as much as possible. Mainstreaming is thus the process of implementing the concept of education in the least restrictive environment.

A Definition

Mainstreaming can be defined in a number of ways (see Adams et.al 1985 for a review of these definitions). For the purposes of the present paper, mainstreaming has been defined as follows:

Successful mainstreaming is a continuing process, rather than a discrete event. It includes the instructional and social integration of children who have handicaps into educational and community environments with children who do not have handicaps. Successful mainstreaming must:

1. Be based on the decision of the IEP team that a child can potentially benefit from placement with children who are not handicapped;

2. Provide a continuum of least restrictive placement options which range from brief periods of interactions, to full-time participation in a regular classroom;

3. Specify the responsibility of students, parents, regular and special education teachers, administrators, and support personnel;

4. Include pre-placement preparation, post-placement support, and continued training for students with and without handicaps, their parents, teachers, administrators, and support personnel;

5. Maximize appropriate interactions between children with and without handicaps through structured activities (such as peer tutoring or buddy systems) and social skills training, as appropriate to specific situations and abilities;

6. Provide functional, age-appropriate activities that prepare the child with handicaps to function in current and future community environments; and
7. Occur without major long-term disruption of ongoing educational activities or other detriments to children with and without handicaps in the mainstream setting.

Impacts

Implementation of the process of mainstreaming has had many impacts on the education system (Madden & Slavin, 1983; National Support Systems Project, 1980). The major impact has been upon the child with handicaps, for it is the child with handicaps who is mainstreamed and who must adjust to a new academic and social environment. However, mainstreaming also impacts others in the educational environment, including administrators, the regular class teacher, and the students in the mainstream classroom. Thus, efforts at enhancing the mainstreaming of students with handicaps must take into account the skills and attitudes of those who will interact with the child being mainstreamed. Although some attention has been paid to the teacher's role in the mainstreaming process, less emphasis has been placed on enhancing mainstreaming by focusing on regular classroom students (Litton, Banbury, & Harris, 1980). Such emphasis is important, according to Zigmond and Sansone (1981) who stated:

> Regular education students need information on handicapping conditions in order to develop some insight to [SIC] and understanding of their handicapped peers. Even more important, they may need to help to develop positive attitudes toward individual differences of all kinds. They must learn to look beyond physical attractiveness, academic success, or athletic ability for other indicators of a person's value and contribution. Their help is essential to make the mainstream environment one that fosters acceptance and support rather than competition and rejection (p. 102).

Additional support for including regular education students in the implementation of the mainstream process comes from attitudinal research which has suggested that students without handicaps often see students with handicaps in negative and prejudiced ways (Gresham, 1981); feel discomfort and uncertainty in interacting with students who have handicaps, and tend to reject them when they are integrated (Rynder, Johnson, Johnson & Schmidt, 1980). Interactions between students with and without handicaps, when they do occur, are generally negative in nature (Gresham, 1981). These conclusions are supported by observational data which indicate that merely placing students with and without handicaps in the same setting does not result in adequate social interaction, especially between children with more severe handicaps and their normal peers

(Gresham, 1982; Guralnick, 1980; Snyder, Appoloni, & Cooke, 1977). Indeed, it appears that acceptance of students with handicaps may actually increase when contact between students with and without handicaps is limited (Frith & Mitchell, 1981).

Successful social integration of children with severe handicaps may thus be difficult to achieve unless attention is paid to the role of children without handicaps in the mainstreaming process. Although the need for preparing children without handicaps has been recognized as a method for enhancing successful mainstreaming of children with handicaps (Stainback & Stainback, 1982; Stainback, Stainback, & Jaben, 1981; Stainback, Stainback, Raschke, & Anderson, 1981), systematic procedures have yet to be consistently implemented for this purpose. A number of authors have, however, advocated the use of various types of activities to prepare children without handicaps for the mainstreaming experience, and some instructional programs have been developed.

Focus of This Review

The present paper will review existing literature on the preparation of students without handicaps for integration with peers who have handicaps. The areas to be discussed include puppetry, simulation activities, working with aids and appliances, inviting guest speakers to class, class discussion, use of children's books and films, videotapes and other media presentations, and participation in role play and problem solving activities. The activities to be discussed fall into two categories: general awareness and skill building. The general awareness activities are ones which have as their goals 1) providing information about children with handicaps and handicapping conditions as well as, 2) modeling appropriate attitudes and behaviors towards persons with handicaps. The skill training activities are those which actually teach and reinforce skills which will allow children to interact appropriately with persons with handicaps.

Awareness Activities

One aspect of preparing children without handicaps for mainstreaming is to provide them with information about handicapping conditions and to model appropriate attitudes and behaviors towards persons with handicaps. The activities discussed in the following sections of this paper have as their goal providing specific information about handicapping conditions such as Down Syndrome and other forms of mental retardation, hearing impairment, visual impairment, physical disability, and learning disabilities. In addition, many of these awareness activities attempt to provide a model of what is appropriate in terms of attitudes and behaviors towards persons with handicaps. Literature dealing with the implementation of these activities will be reviewed and critiqued, and recommendations for the use of these activities in a mainstreaming preparation program will be discussed.

Puppetry

Cadez (1979) utilized puppetry presentations and subsequent discussions to teach four- and five year old children concepts about cerebral palsy. The sessions utilized two puppets from The Kids on the Block (Aiello, 1978) and focused on dispelling fears and misconceptions about cerebral palsy (e.g., assuring the children that you cannot catch cerebral palsy) and indicating the similarities between children with and without handicaps (e.g., that children with handicaps like and participate in the same activities as children without handicaps). The effects of the puppetry presentations and discussions were evaluated in terms of pre-post performance on a ten question, yes-no format questionnaire. The questions were ones which had been directly addressed in the puppetry vignettes (e.g., "Do handicapped children like to do the same things you do?"). The results suggested that the training package was effective in increasing knowledge about cerebral palsy with four and five year old children. However, the number of subjects in this study was limited, and consisted only of preschool children, and no control group was used for comparison purposes. In addition, reliability and validity information on the dependent measure was lacking, the puppetry presentations and discussions focused primarily on cerebral palsy, and no information was available on the generality or maintenance of results.

Additional research which controls for the shortcomings in the Cadez (1979) study is necessary in order to replicate these results with this population as well as with elementary age children, and to examine the feasibility of teaching concepts about other types of disabilities. Although The Kids on the Block program contains a number of different types of puppets and vignettes depicting children with a variety of handicaps, research dealing with their use is limited. No research studies focusing on puppetry in teaching concepts directly related to mainstreaming were located in reviewing an extensive body of literature. If puppetry is useful for teaching concepts about handicapping conditions it is also likely to be useful in teaching aspects related to mainstreaming. Young children seem to be attracted to the puppets, thus maintaining children's attention is easy when puppets are used.

It is recommended that future research correct the limitations of the Cadez (1979) study, and include the assessment of effects in response domains other than knowledge acquisition. Initial research could consist of single subject designs, such as multiple baseline across subject designs, until replication of procedures results consistently in similar findings. Group studies should then be conducted. Specifically, there is a need for control group studies which use as their dependent measure an instrument with established reliability and validity and which includes items tapping knowledge about handicapping conditions as well as willingness to interact with children with handicaps. Such research should focus on both preschool and elementary age students. The feasibility and utility of using puppetry presentations in combination with other preparation activities should be examined as well, as should the issues of generalization and maintenance of behavior changes attributable to puppetry presentations.

Recommendations for Future Research

Other questions about the use of puppetry for presenting concepts about handicapping conditions to regular education students also remain to be answered. First, do puppetry presentations have an impact other than increasing knowledge about persons with handicaps? For example, it would be of interest to determine if puppetry presentations are an effective means of improving verbal responses indicating a willingness to help or to play with a child who has handicaps. Direct observation of actual approach or play behaviors between students with and without handicaps would also be a potential target of puppetry presentations. Although it would be unrealistic to expect that a brief puppetry presentation would drastically improve interactions, it might be expected that puppetry presentations would have some effect on interactions when used in combination with other procedures.

Recommendations for Practice

Future research on puppetry presentations should provide a basis for their use as an awareness activity. It might be expected that puppetry presentations would be good as a first exposure to children with handicaps and handicapping conditions, as children tend to be attracted to the puppets and attend well to them. In addition, if puppetry is useful for teaching concepts about handicapping conditions, then it would be expected that puppetry vignettes which present information specifically about mainstreaming could be developed and used.

One might also explore the feasibility of using puppets for teaching actual interaction skills, e.g., having puppets model appropriate interactions and then having children practice those skills. No published data could be located concerned with puppets and their relationship to skill training for mainstreaming.

Simulation Activities

A number of authors have advocated the use of simulation activities as a means of teaching children about their peers who have handicaps. This simulation might be used as an activity for preparing children without handicaps for interacting with their peers who have handicaps. In general, simulation activities involve the temporary impairment of one or more senses or body movements to allow the child to experience feelings and frustrations which can result from disability. It is assumed that the child's awareness of their affective reactions to the simulation will sensitize them to the affective needs of others and will subsequently change their attitudes and behaviors toward children with handicaps (Ochoa & Shuster, 1980). Typically, participation in simulation activities has been followed by discussion of feelings about being temporarily handicapped and in some cases brainstorming suggestions for improving the environment of the child who has handicaps.

Simulation activities which have been described have been specific to the disabilities of visual impairment, physical impairment, hearing impairment, mental retardation, communication disorders, and learning disabilities. A review of the literature on simulation activities indicates that the majority have been concerned with visual, hearing, and orthopedic impairments. In the following sections, the types of activities used to simulate a variety of handicapping conditions will be described. In the last section, a review of research which has examined the effectiveness of simulation activities will be presented, and recommendations for future research and practice discussed.

Types of Simulation Activities

Simulation of Visual Impairment. Blind walks, in which a child is blindfolded and "led around" by a non-impaired peer or required to perform some activity while blind-folded have been the predominant method of simulating visual impairment (Bookbinder, 1978; Glazzard, 1979; Grosse Point North High School, 1980; Martin & Oaks, 1980; Ochoa & Shuster, 1980; Ward, Arkell, Dahl, & Wise, 1979). Partial visual impairment has also been simulated by placing a translucent material over glasses or goggles and requiring the child to perform a task, such as reading or filling out a form (Martin & Oaks, 1980; Ward et al., 1979).

Simulation of Hearing Impairment. Hearing impairment has been extensively simulated by requiring subjects to wear ear plugs or to view a movie or cartoon with the sound off (Bookbinder, 1978; Glazzard, 1979; Ward et al., 1979). Partial hearing loss has been simulated by presenting instructions to be followed in either a low volume or garbled manner (Ochoa & Shuster, 1980; Ward et al., 1979). Requiring pairs of children to converse without words has also been used to simulate the difficulties of communicating when one has a hearing impairment (Ward et al., 1979).

Simulation of Orthopedic Impairment. Physical disabilities can be simulated in a number of ways (Bookbinder, 1978; Glazzard, 1979; Martin & Oaks, 1980; Pieper, 1983; Ward et al., 1979). For example, children can be required to walk with their legs stiffened with rulers, braces, cords around their ankles, or with sandbags on their wrists. Impaired movements can be simulated by hooking the arms around a pole behind the back or by immobilizing the dominant arm. Fine motor impairment can be simulated by wearing gloves while doing a task or by taping fingers together or stiffening them with tongue depressors. Other physical impairment simulations include the use of wheelchairs and crutches, three-legged potato-sack races, walking a balance beam after being spun around (to simulate balance problems), being required to pick up pencils with the feet only, eating or writing while holding a spoon or pencil with pliers, and playing ball while sitting in a wheelchair or without using arms or legs.

Simulation of Mental Retardation. Simulations of mental retardation have been less frequently described, but generally require the child to complete a task which is far too difficult for him or her. For example, a task with numerous complex instructions which the child must follow can be presented, or the child can be required to read paragraphs containing letter reversals or otherwise undecipherable material. In order to introduce children to multiple impairments associated with mental retardation, activities used for simulating orthopedic impairments can be used as well (Bookbinder, 1978; Ward et al., 1979).

Simulation of Communication Disorders. Reading with cotton pads in the mouth or attempting to communicate instructions without speaking are activities which have been used to simulate communication disorders. Attempting to read while simulating a specific speech impairment has also been suggested (Ochoa & Shuster, 1980; Ward et al., 1979).

Simulation of Learning Disabilities. Learning disabilities can be simulated by requiring children to complete tasks under unusual circumstances, such as attempting to trace patterns in a mirror or reading material in which some letters and words have been substituted for others. In addition, many of the activities which have been suggested for the simulation of mental retardation, such as completing extremely difficult tasks, have been suggested as learning disability simulations as well (Cashdollar & Martin, 1978; Martin & Oaks, 1980; Ward et al., 1979).

Effectiveness of Simulation Activities

Glazzard (1979) had college students participate in simulations of hearing, visual, and motor impairments and describe their feelings about, and perceptions of, the experience in a short paper. Analysis of these anecdotal reports indicated that the students found the impairments frustrating and were able to identify behaviors of the persons without handicaps (helpers) which contributed to these feelings. For example, they indicated that people often had pain or pity expressions on their faces when helping students in wheelchairs, and that this made the students feel embarrassed and humiliated. Lieberth (1982) found similar results after requiring college seniors majoring in speech pathology to participate in a day-long hearing impairment simulation.

An interesting variation of the use of simulation activities is described by Israelson (1980). Children in a class for hearing impaired students participated in simulations of blindness and orthopedic impairment and role played positive and negative ways of helping people with handicaps. These activities were instituted as a method of improving the children's behavior toward a classmate with physical handicaps. Although an objective assessment of the effectiveness of these procedures was not conducted, the author reported that, subjectively, the activities did enhance the student's sensitivity to other handicapping conditions.

Wilson and Alcorn (1969) examined the extent to which an eight-hour disability simulation would change the attitudes of college students toward persons with handicaps. An experimental and a control group were pre- and post-tested on the Attitudes Toward Disabled Persons (ATDP) scale, for which reliability and validity had been previously demonstrated. The experimental subjects were also asked to write essays detailing their feelings about the simulation. Analysis of the narratives indicated frustrations and insights similar to those reported by Glazzard (1979) and Lieberth (1982). However, no significant differences between the groups were found on the ATDP, indicating that, as measured by this particular scale, the simulation activities did not significantly improve attitudes toward persons with handicaps. However, it is possible that the ATDP is not sensitive enough to detect differences.

Recommendations for Future Research

Although much anecdotal information about the use of simulation activities exists, a major problem with the literature on the use of simulation activities to prepare children without handicaps for mainstreaming is an absence of well-controlled studies which have objectively evaluated their effectiveness with children. If it is assumed that simulation activities make children more sensitive to the feelings and frustrations of persons with handicaps, then the extent to which they achieve this outcome should be assessed. In addition, the extent to which simulation activities may be useful as a way of making the public aware of the mainstreaming of children with handicaps should be the focus of future research. Thus, additional research on the effectiveness of simulation activities should be conducted to answer these questions.

Recommendations for Practice

Simulation activities, if effective as a mainstreaming preparation activity, have several advantages which might make them a useful addition to a preparation program. For example, the activities are easy to implement and require few materials and little teacher training. In addition, subjective information presented by a number of authors indicates that the activities are fun for participating children. Simulation activities are also a way of directing the attention of both children and adults to the needs of persons with handicaps. Simulation activities could thus serve a public relations or public awareness function, and might be considered as a first step in any awareness or mainstreaming preparation program.

A major disadvantage of simulation activities as they have been used in the past is that they do not provide children with any new specific skills which would allow them to interact differently with peers with handicaps. Rather, the purpose of simulation activities has been to provide the participant with an opportunity to experience what it is like to have a handicap. This, in turn, is postulated to result in a greater understanding of the feelings and perceptions of persons with handicaps. Such a postulation has several problems. First, young children may have difficulty understanding how another person would feel in the same situation, (Mussen & Eisenberg-Berg, 1977) and may thus be less likely to benefit from simulation activities. Second, Donaldson (1980) has indicated that, even with adults, disability simulations may have little effect on the ways in which participants view persons with handicaps.

At the present time, the difficulties with simulation activities seem to be: a) the lack of a clearly defined purpose for simulation activities which includes objective measurement of behavior change in interaction patterns (e.g. direct observation); b) the lack of a clearly defined set of questions or activities, at the end of the simulation, directed at identifying new interaction skills needed for dealing with peers who have handicaps; c) the failure to teach the newly identified and needed interaction skills, and; d) the selection of activities for simulation which encompass only a portion, if any, of the situations that a person with specific handicaps encounters. If a decision is made to incorporate simulation activities within a mainstreaming preparation program, it is thus advisable to clearly plan the goals for these activities, to identify the needed interactional skills, and then to incorporate the teaching of these skills into subsequent portions of the preparation program. In addition, it would be useful to discuss the interactional behaviors identified in terms of more encompassing life situations. Thus, simulationactivities, as they have been described in the past, are not recommended for use in a preparation program. If they are used, then modifications, as described above, must be made.

Working With Aids and Appliances

Exposure to the aids and appliances used by students with handicaps, although not specifically used as a mainstreaming preparation activity, has been described as another method for improving the attitudes of the nonhandicapped toward their peers with handicaps (Bookbinder, 1977; Pieper, 1974; Ochoa & Shuster, 1980; Weikel, 1980; Pasanella & Volkmor, 1981) . Such exposure would include examination of devices such as wheelchairs, hearing aids, and prostheses, as well as learning to use Braille or the manual alphabet. These activities appear to serve two purposes. First, it is assumed that one barrier to the acceptance of persons with handicaps is fear, and that this fear may be generated by unfamiliarity with the devices which many persons with handicaps must use. Exposure to these devices is thus proposed as one way of reducing any fears associated with them. Second, exposure to aids and appliances is assumed to serve as a method of increasing knowledge about the ways in which those with handicaps are able to adapt to their environment. Such knowledge is also expected to improve acceptance. In addition, interaction with individuals who are handicapped would be facilitated when nonhandicapped persons learn appropriate methods of communication, such as sign language and Braille writing.

Recommendations for Future Research

No studies could be located for which there has been a systematic examination of the effectiveness of exposure to aids and appliances as a method for improving positive attitudes towards persons with handicaps. Thus, although working with aids and appliances has been suggested as a useful activity, there seem to be no objective data to substantiate this claim. Future research on the effects of exposure to aids and appliances on the attitudes and behaviors of persons without handicaps should address a number of issues. First of all, there should be some examination of the differential effects of different types of exposure. Learning about the use of a wheelchair would, for example, probably have a different outcome than would learning some simple signs. In the case of the former, knowledge would be imparted, while in the case of the latter, communication between individuals would be facilitated. Second, the extent to which exposure reduces fears associated with interacting with persons with handicaps would be of interest as this is one of the assumed purposes of such exposure. A determination needs to be made of whether the fears are related to the devices used by persons who have handicaps. If so,the effects of fear reduction on actual attitudes and behavior would be a logical extension of this line of research. Again, the research must also encompass objective measurement of impact not only at the time of exposure to prosthetic appliances and devices, but also later to determine durability and generality.

Recommendations for Practice

Although exposure to aids and appliances has not been the subject of extensive empirical investigation, there are some instances in which their use within a preparation program may be justified. Specifically, exposure to aids and appliances may be necessary if such devices are used by a particular child being mainstreamed. For example, a child may use a walker, a device which is unfamiliar to most young children, and about which they may be curious. Alternatively, a child with a language impairment who uses sign language or a communication board may be mainstreamed; in this case it would make sense to introduce the regular classroom students to sign language or to the child's communication board in order to allow them to effectively interact and communicate with that child. However, exposure to aids and appliances as a general awareness activity per se is not recommended until there is sufficient research to support such an approach. Exposure to aids and appliances as a skill building activity is highly recommended, e.g., teaching children to use sign language, provide them with a functional communication method for interacting with children who have handicaps and who use sign language.

Guest Speakers

Inviting a person with handicaps, someone who works with handicapped persons, or a parent of a child who is handicapped to speak with a class of children has also been advocated as a method for improving attitudes toward persons with handicaps (Bookbinder, 1977; Pieper, 1974; Pasanella & Volkmor, 1981). Such guest speakers can present information about what it is like to be handicapped or to interact with persons who are handicapped on a day-to-day basis. They can also answer any questions that children might have about a particular handicapping condition. Guest speakers who themselves have handicaps can also provide children with an opportunity to interact with a person who has a handicap. Some evidence for the effectiveness of this approach is provided in a study by Lazar, Gensley, & Orpet (1971) which utilized a special instructional workshop on creative Americans and weekly guest speakers who had handicaps as a program for improving attitudes towards people with handicaps in a group of mentally gifted eight year olds. Pre- and posttesting on the Attitudes Toward Disabled Person's Scale (ATDP) indicated significant gains, in comparison to a control group, as the result of participation in the program. However, the reliability and validity of the ATDP for children is unknown and thus its use as an outcome measure is subject to criticism and leaves these results in question.

Recommendations for Future Research

A number of issues could be examined in future research on the use of guest speakers as a preparation activity. Perhaps the most salient issue is the differential effects of different types of guest speakers: e.g., a non-significant person with handicaps, a person with handicaps who has accomplished a significant goal, or a parent of a child with handicaps. Donaldson (1980) suggested that interventions involving contact with a person who has handicaps are most successful when the person with handicaps acts in a non-stereotypic manner. Thus, one might expect that a guest speaker who displays an unusual skill might be more effective than one who does not. In addition, Donaldson (1980) notes that interventions aimed at changing attitudes toward persons with handicaps should involve at least an equal-status relationship between the participants. Thus, one might expect that an intervention in which guest speakers are carefully selected to ensure that they are approximately equal in social, educational, or vocational status so the persons with whom they are speaking would be more effective than one in which equal-status is not taken into account. Future research in this area should thus incorporate these issues, as well as the broader issues of durability and generality of results.

Recommendations for Practice

There are a number of ways in which guest speakers could be incorporated into a mainstreaming preparation program while taking into account the recommendations of previous research. For example, the mainstreamed child's special education teacher might visit the regular classroom to answer questions that the children might have about their new classmate. This would allow the students to gain specific information about the child being mainstreamed. The special education teacher could also serve as a model for appropriate attitudes and behaviors towards persons with handicaps. A child with handicaps who is older than the children in the class might also be invited to the class to speak about what he or she likes and dislikes about participating in regular class activities, as well as, the types of activities that are carried out in his or her special education class. Using a child who is older would address the suggestion that the guest speaker should be of at least equal status to the participants.

Parents of the child being mainstreamed could also serve as guest speakers, as they are in an ideal position to provide information about their child. In addition, the parent could show a slide show of their child as a way of providing the regular class students with concrete information about their new classmate and suggestions for appropriate interactional skills. The use of guest speakers to teach particular interaction skills is as yet completely unexplored.

Class Discussion

Most authors who have described the preparation of the nonhandicapped have stressed the importance of class discussions both before and after participation in other preparation activities. For example, Bookbinder (1977) suggests that prior to beginning a program it is useful to discuss the children's experience with people with handicaps and their feelings and opinions about them. She also indicates that the instructor should be non-judgmental in his or her reactions to the children's responses in order to establish a positive environment in which they will learn. During and after participation in various activities, questions should be encouraged and responded to in a straightforward manner.

Class discussions have been suggested as an important adjunct to participation in puppetry and simulation activities. For example, Ochoa and Shuster (1980) see simulation activities and subsequent class discussions as a way of providing students with the opportunity to, "experience situations and events affectively and then to analyze those affective experiences in the broader context of the social environment" (p. 94). The role of the instructor or teacher is to ensure that the goals of an activity are realized; the class discussion provides a forum in which to present and clarify these goals, and to correct any misconceptions which may be present.

There is some evidence, however, that unstructured class discussions may not have the desired effects on attitudes towards persons with handicaps. As cited in Donaldson, (1980), and Siperstein, Bak, and Gottlieb (1977) conducted a study to determine the effects on attitude of having groups of children informally discuss a Down syndrome child who was also depicted as being unable to spell. The investigator found that there was actually a negative shift in attitudes as the result of this discussion. Donaldson (1980) thus cautions against the use of unstructured discussions as a method of attitude change, suggesting that such discussions may actually strengthen attitudes held prior to the discussion.

Class discussions have also been included in investigations which involved the evaluation of a peer preparation training package (Miller, Armstrong, & Hagan, 1981; Lazar, Gensley, & Orpet, 1971). However, the effectiveness of class discussions would necessarily be tied to the effectiveness of other activities, unless an attempt was made to introduce additional concepts during the discussions. In addition, while simulations and other activities are relatively structured so that their use is somewhat standard, class discussions do not necessarily have a specific format (Donaldson, 1980). Even when suggestions are given for questions which can be asked (e.g. Ward, Arkell, Dahl, & Wise, 1979; Bookbinder, 1977; Cohen, 1977), it is conceivable that other factors such as the skills, knowledge, and attitudes of both the discussion leader and the group will ultimately determine what is discussed.

Recommendations for Future Research

Future research on the use of class discussions to effect attitude change should thus involve the examination of the effectiveness of using a structured discussion format. Within a structured format the goals of the discussion should be clearly identified, and discussion questions and issues should be present in written form. Research in this area should also attempt to evaluate the influence of prior attitudes towards and knowledge about, persons with handicaps, as well as the influence of the skill level of the discussion leader, on attitude change after class discussion.

Recommendation for Practice

Pending the completion of additional research on class discussions, it would behoove the practitioner to carefully link the use of discussion sessions to the goals of other preparation activities being implemented. For example, a class discussion could be utilized in conjunction with a puppet show. Questions which are linked to the objectives of the puppet show e.g., teaching children that certain handicapping conditions are not contagious, could be developed and included in written form with each puppet vignette. Thus, the discussion would be structured and would contribute to the attainment of the objectives of the activity.

Children's Books

Children's books which portray individuals with handicaps have been suggested as a means of increasing positive attitudes towards and acceptance of people with handicaps (e.g. Bookbinder, 1978; Greenbaum, Varas, & Markel, 1980; Mauer, 1979). According to Greenbaum, Varas, and Markel (1980):

> A well-prepared teacher can use trade books to provide factual information as well as to help children explore their feelings. These books offer an opportunity to see a child with a disability as a whole person regardless of the label "handicapped." They give children a chance to realize that all children, regardless of disability,

> share similar feelings and interests and that each disabled person is a unique individual (pp. 416-417).

Children's books are conceptualized as a medium for imparting information about handicapping conditions as well as a means of stressing the similarities between those with handicaps and those without. Thus their purpose is similar to that of other methods of changing attitudes towards children with handicaps. Unlike other activities which have been described, however a number of authors (Baskin & Harris, 1977; Bisshopp, 1978; Dreyer, 1981; Greenbaum, Varas, & Markel, 1980; Isaacson & Bogart, 1981) have described criteria for evaluating books about persons with handicaps. For example, Greenbaum, Varas, and Markel (1980) list their criteria for evaluating books about the handicapped: (1) the books should consider the whole person, (2) they should talk about both positive and negative emotions, (3) they should show interactions between persons with and without handicaps, (4) they should be factual and realistic, (5) they should not encourage pity, but rather (6) should encourage acceptance and respect, (7) illustrations should be clear and realistic, (8) the rights of persons with handicaps to a normal life should be stressed, and (9) the books should put their primary emphasis on similarities rather than differences. Appendix B lists a variety of books, which would potentially fit these criteria, grouped according to the handicapping condition with which they deal. This appendix was compiled from a variety of sources (Baskin & Harris, 1977; Bookbinder, 1977; Cadez, 1979; Cadez & Hughes, 1980; Cohen, 1977; Greenbaum, Varas, & Markel, 1980; Grosse Point North High School, 1980; Isaacson & Bogart, 1981; Nash & Boileau, 1980) which had either advocated or evaluated specific books about the handicapped for use in peer preparation activities. Books described in these sources were included in the list only if they (1) were rated as being appropriate for children in the preschool and elementary grades up to grade 3 or 4, (2) received a favorable review from one of the sources (Baskin & Harris, 1977; Bisshopp, 1978; Dreyer, 1981; Isaacson & Bogart, 1981) which provided written evaluations, or if (3) there was no information available about them other than their title and so they could not be excluded from consideration. However, the extent to which any or all of these books would add to a peer preparation package will need to be evaluated.

Leung (1980) conducted a study of the effectiveness of using books about persons with handicaps with four dependent measures: (1) direct observation of interactions between students with and without handicaps, (2) sociometric measures of the social status of students with handicaps, (3) attitudes towards students with handicaps, and (4) teacher evaluation of the procedures. Children in three elementary classrooms, each of which included two children with handicaps, participated as subjects. Teachers in each of the classrooms read one story about persons with handicaps each day, for ten consecutive days, and followed each reading with a class discussion of the characteristics and behaviors of the people with handicaps in the story. Pre- and posttest assessment revealed significant changes in attitudes towards the person with handicaps, but not in sociometric status of the children with handicaps in each class. Observational data did not reveal a functional relationship between the literature program and interactions between students with and without handicaps. However, teachers favorably evaluated the program in terms of its facilitation of the social acceptance of the children with handicaps in their classrooms. This study thus emphasizes the importance of identifying the specific objectives of a preparation activity and ensuring that the activity selected meets these goals.

Another study which examined the effectiveness of using books to modify nonhandicapped students' attitudes toward their peers with handicaps was conducted by Salend and Moe (1983). Fourth, fifth, and sixth grade students participated in this study, which utilized a pretest-posttest control group design with two experimental conditions. The first experimental condition was the books-only group which was exposed to three books (Lisa and Her Soundless World, Don't Feel Sorry For Paul, and Apt 3) which dealt respectively with deafness, physical handicap, and blindness. The second experimental condition involved additional activities, including group discussion, simulation, explanation, and working with aids and appliances. The dependent measure in this study was the Personal Attribute Inventory for Children (PAIC). The PAIC is an alphabetically arranged adjectives checklist consisting of 24 negative and 24 positive adjectives from which the subjects were asked to select the 15 adjectives which best described children with handicaps. The results indicated no significant effect of the books-only group, but a significant difference on the PAIC between the books plus activities and the control group was found.

These studies both suggest that the specific books used are not in and of themselves an effective means of influencing the nonhandicapped child's attitudes and behaviors towards their peers with handicaps, although the Leung (1980) study did find that attitudes toward persons with handicaps changed as the result of a literature program. However, this study did not use a control group for comparison and hence its results are open to question. In addition, although Leung (1980) found that teachers favorably evaluated the effects of this program in terms of increasing social acceptance of students with handicaps, sociometric and observational data did not substantiate this view.

Recommendations for Future Research

Additional research in this area should focus on the validity of the criteria for book selection proposed by other authors in terms of their relationship to student outcome. In terms of student outcome, additional research utilizing instruments with demonstrated reliability and validity should be conducted to determine the behavioral and/or attitudinal outcomes associated with a preparation program utilizing books about persons with handicaps.

Recommendations for Practice

Although there is little empirical support for their use alone, the research reviewed suggests that books may contribute to a peer preparation package. The use of books has the particular advantage of being easily implemented by regular classroom teachers, and there is some evidence that teachers would be receptive to such an approach. However, caution must be maintained in the selection of specific books for use and in evaluating the extent to which they add to a peer preparation package. Additional research in this area should thus focus on the validity of the proposed criteria for book selection as well as their effectiveness as a method of improving attitudes and behaviors towards persons with handicaps.

Films, Videotapes, and Other Media Presentations

Like puppetry presentations and books about persons with handicaps, films and other media presentations have been viewed as a way of presenting information about persons with handicaps in a manner which attracts children's attention in a nonthreatening way. Indeed, films are frequently suggested as a component of peer preparation training packages (Barnes, Berrigan, & Biklen, 1978; Bookbinder, 1977; Cohen, 1977; Ochoa & Shuster, 1980; Pasanella & Volkmor, 1981; Pieper, 1974; Ward, Arkell, Dahl, & Wise, 1979).

Westervelt and McKinney (1980) conducted a study to evaluate a brief film designed to point out how the aspirations and interests of a child with handicaps are similar to those of his or her classmates without handicaps. Forty-six fourth grade students who scored low on the Social Distance Questionnaire (SDQ) were selected as subjects. The SDQ involves rating the extent to which the subject views his interests as being similar to children pictured in photographs. Information about its validity and reliability was not presented. In the present study, photographs of an able-bodied and wheelchair-bound child were used. Children in an experimental group viewed a thirteen-minute film showing children with handicaps in wheelchairs participating in physical education and classroom activities with children without handicaps. Both experimental and control children were then posttested on the SDQ with pictures of a wheel-chair bound child and a child with braces and crutches. The children were also given two activity preference scales which assessed their self-interests and their perception of the wheel-chair bound child's interests. The measures were repeated on a nine day follow-up. The film was found to significantly increase SDQ scores for the wheel-chair bound child, but not for the child with crutches. Only girls viewing the film showed an increase in similarity of interests, and then only in the physical education activity area. The effects were not maintained on the nine dayfollow-up. The authors concluded that the film would be useful to show to children immediately before a wheelchair-bound child was to join their class. However, these results suggest that one limitation of utilizing a film which depicts one specific type of handicap is that the results do not generalize to other handicaps, nor are positive results maintained without additional programming.

The issue of generalizing the effects of experience with one type of handicapping condition to other handicapping conditions is one which is relevant to most of the preparation activities discussed. The Westervelt and McKinney (1980) study is the first to give an indication that it may be necessary to expose children to a variety of handicapping conditions in order to improve their acceptance of persons with handicaps in general. Thus, it would appear that a more cost-efficient method of preparation would be one in which children with a variety of handicapping conditions are described and/or depicted. Films and other media presentations would lend themselves well to such an approach as, for example, children who are mentally retarded, physically disabled, etc. could easily be shown interacting with children who do not have handicaps.

Recommendations for Future Research

It is recommended that future research on the use of films and other media presentations as a preparation activity focus on determining the effectiveness of a film depicting children with various handicaps interacting with their peers without handicaps. In particular, it would be important to look at not only how viewing such a film would affect children's perceptions of people with handicaps, but their interactions with them as well. The literature on social skills training gives some support to the usefulness of films as a method of teaching social skills and of increasing interactions (Michelson & Wood, 1980). Thus, films may prove to be an effective means of increasing interactions between children with and without handicaps.

Recommendations for Practice

Based upon the fact that films and other media presentations are easy to obtain and use and that their use has some face validity it is recommended that practitioners include them within a preparation program when possible. However, it is important that films being utilized be previewed for their appropriateness as a means of meeting program goals.

Appendix A contains a brief list of films which have been mentioned in a variety of sources (Ahern, 1983; Bookbinder, 1977; Cadez, 1979; Cadez & Hughes, 1980; Cohen, 1977; Weikel, 1980; Westervelt & McKinney, 1980) including advertising material from publishers. Since there is little in the literature which deals with evaluating specific films about persons with handicaps, the films listed in Appendix A would require previewing by potential users for the appropriateness of their content for their potential audience. However, it would be useful to use the criteria suggested for evaluating books, in the evaluation of films and other media, since they do not differ in their goals but only in their method of presentation.

Skill-Building Activities

The awareness activities which have been discussed in previous sections of this paper are ones which have been the most frequently described in the literature. However, in order for a preparation program to begin to address the issue of actually impacting interactions between persons with and without handicaps, the present authors believe that skill-building activities must be an integral component. Although some of the activities which have been described as awareness activities have implications for skill building, in general this has not been their primary focus. The activities described in the following sections can used be used, however, to teach children specific skills which can be utilized to improve their interactions with persons who have handicaps.

Role Play and Problem Solving

The preparation activities which have been discussed up to this point have either focused on providing children with information about persons with handicaps or have attempted to provide them with experiences which are designed to make them more sensitive to handicapping conditions. In general, however, these preparation activities do not directly address the issue of preparing children to interact with a child in their class who has handicaps. In order to address this need, some authors (Ochoa & Shuster, 1980; Salend, 1983; Ward, Arkell, Dahl, & Wise, 1979) have suggested the use of hypothetical examples and role playing as methods of teaching appropriate interactional skills to children without handicaps. For example, Ochoa and Shuster (1980) suggest that students role play a situation involving a new classmate with a facial scar. Ward, Arkell, Dahl, and Wise (1979) provide scripts for a variety of role-play situations, including the first day in class for a child with handicaps; having a wheelchair-bound person over for dinner, and the inclusion of a person with handicaps at a dance. Such activities allow the participants to practice new ways of interacting with persons with handicaps without the usual constraints and consequences which real-life interactions might entail (Ward et al., 1979). To date, however, empirical data to demonstrate the effectiveness of these procedures are lacking.

Salend (1983) proposes the use of hypothetical examples as a way of preparing regular class students for the specific needs of a child who will be mainstreamed. This approach involves: (1) determining the handicapped child's strengths and weaknesses, (2) analyzing the environmental aspects of the class (e.g. instructional format, classroom rules, etc.) in order to pinpoint potential problem areas, (3) identifying problem areas by comparing the child's strengths and weaknesses to the environmental aspects of the case, (4) translating the specific problem areas into hypothetical examples, (5) presenting the hypotheticals to the class, and (6) brainstorming solutions to the hypotheticals. Such a procedure would be cost-effective in the sense that time would not be wasted on preparing children for handicapping conditions and behaviors which they will not come into contact with directly. However, such an approach would need to be evaluated for its potential to generalize its effects to other children with handicaps who could potentially be mainstreamed into the class.

Recommendations for Further Research

Empirical studies on the use of role play and hypothetical examples to prepare nonhandicapped children for the mainstreaming experience were not located by the present authors. However, there is some evidence, again from the social skills training literature, that role play activities are an effective means of increasing social interactions (Hops, Guild, Fleischman, Paine, Street, Walker, & Greenwood, 1978). Thus, future research should focus on the validation of these methods as a means for improving interactions between children with and without handicaps in a mainstream setting. In particular, it would be of interest to examine the usefulness of focusing on a variety of handicapping conditions versus discussion focused upon a specific child with handicaps who will be mainstreamed.

Recommendations for Practice

Based upon the logical utility of this approach, it is recommended that practitioners attempt to include it within a preparation program. Salend's (1983) discussion would provide a good basis for teachers and others to work from. However, this approach may be somewhat more time consuming than other methods, both in terms of preparation time and implementation. This approach would also require more skills on the part of the implementator, as both a good working knowledge of the characteristics of children with handicaps as well as with the actual implementation of these methods would be necessary. This much planning and time will be necessary if role-play and problem-solving activities are included within a preparation program.

Experience With Persons Who Are Handicapped

Role play and problem-solving activities can set the stage for learning appropriate interactional skills, but actual experience with persons who are handicapped is necessary for practicing and refining these skills. Some authors have suggested meeting a child who is handicapped or visiting a school or class for children with handicaps as a method of preparing children without handicaps (Ochoa & Shuster, 1980; Pasanella & Volkmor, 1981). This would allow the child without handicaps to gain first-hand experience with the types of handicapping conditions to which they would be exposed to in other preparation activities or on their school and community environments. However, there is research to indicate that unstructured experience with the handicapped may actually be detrimental to achieving the goals of a preparation program. For example, Thomason & Arkell (1980) note that visiting students who are in institutional settings may result in a more negative view of persons with handicaps. In addition, data cited in an earlier portion of this paper indicated that acceptance of students with handicaps may actually increase when contact between students with and without handicaps is limited (Firth & Mitchell, 1981).

Recommendations for Future Research

Providing experiences with children who are handicapped as a method for teaching appropriate interactional skills appears to be an area which is largely unexplored. Thus, research which looks at the effects of such experiences within a structured format (i.e., as in experiences which are designed to allow children to practice skills learned through previous role play and problem-solving activities) needs to be conducted.

Recommendations for Practice

At the present time it appears that allowing children without handicaps to gain first-hand experience with children who have handicaps would be best implemented in conjunction with other skill building activities. This would require the specification of goals and objectives to be achieved through the experience much in the same way that they would be specified for role play and problem solving activities. Based upon indications that unstructured experiences can have potentially negative effects, it would be unadvisable to use unstructured experience with children who have handicaps as preparation activity.

Preparation Programs

There are a number of programs and curricula for the preparation of students and teachers without handicaps which include various combinations of the preparation activities described in this paper. These programs have been reviewed and described elsewhere by other authors (Ahern, 1983; National Support Systems Project, 1981). However, a number of these programs have been cited in the literature, and will briefly be described below.

Ward, Arkell, Dahl, and Wise (1979) have developed a program called Everybody Counts: A Workshop Manual to Increase Awareness of Handicapped People which includes descriptions of procedures for conducting simulation activities for teachers. They note that these activities would be applicable to children as well as teachers. (However, this authors' review of these activities indicated that some of them appear to be to sophisticated for children below grade 3 or 4 due to reading and other skills which are necessary for participation). Activities for simulating visual impairment, hearing impairment, mental retardation, communication disorders, learning disability, and motor/orthopedic handicaps are included. Compatible role-playing activities and community experiences are also described. The authors have evaluated the effectiveness of the training activities with teachers by having them indicate the extent to which the workshop met the stated objectives and by giving an overall rating of the procedures. Other objective data on the effectiveness of the program are not reported.

Bookbinder (1978) has developed a curriculum for grades 1 through 4 called Mainstreaming: What Every Child Need to Know About Disabilities, which includes activities for blindness, deafness, physical disabilities, and mental retardation. The program has five components: simulation activities; exposure to aids and appliances; guest speakers; books, movies, slides and tapes; and class discussion. The author reports that in the first workshop they asked teachers to distribute a short checklist of attitudes before and after implementation of the program. They found that although they were dissatisfied with the types of questions on the checklist and doubted whether the children understood how to answer them, they nevertheless felt that there were positive outcomes of the program.

Cashdollar and Martin (1978) have developed a program called Kids Come in Special Flavors, which includes sixteen simulation activities dealing with learning disabilities, hearing impairments, mental retardation, visual impairments, and cerebral palsy and spina bifida. For each activity there is a goal, materials list, set of directions, and thoughts for discussion. However, objective data on the effectiveness of the program are lacking.

Sapon-Shevin (1983) describes a program developed by Cohen (1977) called Accepting Individual Differences which can be used to teach children in grades K through 3 about differences in the areas of mental retardation and learning disabilities, visual impairments, hearing impairments, and motor impairments. Simulation activities are a component of the program which also includes games, stories, discussion questions, and problem-solving activities. However, as is the case with other packaged programs, data on the effectiveness of the program are not provided.

A number of authors have, however, attempted to evaluate the effectiveness of preparation programs. For example, Miller, Armstrong, and Hagan (1981), conducted a study in which an experimental group of third and fifth grade children received 30 minutes of instruction twice a week for six weeks. Accepting Individual Differences, Concept Books, and simulation activities based on Kids Come in Special Flavors and Everybody Counts were used as the basis for training. Pre- and posttest scores were obtained on the Scale of Children's Attitudes Toward Exceptionalities (SCATE), which consists of the presentation of handicaps in a cartoon-like format to which subjects respond by attitudinal indicators. No statistically significant differences between the experimental and control groups were found after training. Thus, the study does not support the use of this particular combination of preparation activities as a method for improving children's attitudes toward children with handicaps.

More encouraging results were obtained, however, by Jones, Sowell, Jones, and Butler (1981) in a study in which elementary school children participated in five hours of preparation activities which included speaking with people with handicaps; learning sign language, the manual alphabet, and Braille; working with aids and appliances; viewing a film on blindness; interacting with a severely retarded adolescent; and participating in a blindness simulation. They found that training resulted in significant pre-post gains on an attitude scale which consisted of negative, neutral, and positive characteristics which the children were asked to attribute to people with handicaps. However, although this study does suggest that a combination of preparation activities may be effective, the lack of a control group of subjects leaves these results in question.

Recommendation for Future Research

The research which has been conducted to date on the effectiveness of using preparation programs leaves many questions unanswered. First of all, the research has suffered from a number of methodological flaws, the most serious of which include a lack of control groups and the use of dependent measures without demonstrated reliability and validity. There also appears to be an attitude among researchers that in this area "more is better". The programs described have included a large number of activities, many of which have no support for their use or for which there may be evidence indicating that they are not effective. Future research must thus address the issues of, (a) defining the specific goals of the preparation program; (b) selecting activities which meet these particular goals, based upon empirical data and/or for theoretical or practical reasons, and (c) evaluating the effectiveness of these procedures using sound research methodology.

Summary

In the proceeding sections of this paper a number of specific activities which can be used to prepare regular education students for the mainstreaming experience have been described, and literature on their effectiveness presented. In general, there are many authors who have advocated and described various preparation activities, but only a handful who have made an attempt to evaluate their effectiveness. Much of the research which has been conducted has, in turn, failed to control for many variables which could potentially affect outcomes. Thus, there is little empirical data to guide the selection of activities which can be included in a peer preparation program. In order to develop a peer preparation package one must determine the objectives of such a program, and select the activity which might best meet these objectives.

When one looks at preparation in terms of its impact upon mainstreaming, it appears that the most important goal of preparation activities would be to facilitate interactions between children with and without handicaps. In order to achieve this goal, one might first attempt to present information about handicapping conditions through media such as puppet shows, films, and books. The purpose of presenting this information would be to provide a basis for teaching interactional behaviors. The next step would then be to implement hypothetical role play and problem solving activities in order to allow the students to practice ways of dealing with the specific children who have handicaps about whom information had been presented. When there is a situation in which mainstreaming will occur, additional training could be conducted in order to prepare the students for a specific child or children with whom they will come in contact. Thus, at this point, additional information may be presented -- e.g., the classroom teacher might describe the strengths and weaknesses of the child being mainstreamed and a videotape of the child in his or her special education classroom or at home might be shown. The class might then discuss ways in which they might interact with the child, and could role play some potential interactions. With preschool children, an effective way of conducting role plays of this type might be to allow them to interact with a puppet who would display behaviors similar to those of the child being mainstreamed. This would be an especially attractive method if a puppet show had been used previously to present information about handicapping conditions. After mainstreaming occurs, there would also be a need to deal with questions that the children without handicaps might have, as well as to deal with any problems that might arise and formally train interaction skills. In this way, any positive effects that might have been achieved would be more likely to be maintained.

A number of issues regarding preparation programs remain to be addressed. For example, the ages for which the various preparation activities are appropriate must be delineated . Class discussions may be more appropriate for older elementary age students than for preschoolers. Or, if they are used, their content may need to be modified for various age groups.

Another issue is the identification of (a) specific facts which are important within the knowledge domain, and (b) specific initiation behaviors which must be taught. For example, there are existing scales (e.g. Cadez, 1980; Hazzard, 1973) which include knowledge items. However, there are no data available to indicate that these facts are the most salient ones for regular education students to learn. In terms of initiation behaviors, researchers are just beginning to identify those behaviors which are more likely than others to for produce positive responses from the child who is the target of the initiations (Tremblay, Strain, Hendrickson, & Shores, 1981). However, additional work may be necessary in order to determine the initiation behaviors which would be most appropriate as the focus of intervention for children of different ages.

A number of research questions remain to be addressed in the area of preparing children without handicaps for the mainstreaming experience. The implementation of preparation activities for children without handicaps does, however, appear to have great potential for facilitating the mainstreaming process. By preparing and involving students from the mainstream classroom, it is expected that social integration of the child with handicaps can be achieved. It is thus hoped that additional research will be conducted in this area and the results utilized to develop an effective combination of preparation activities.

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Appendix A
Films, Videotapes, and Other Media Presentations

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A REVIEW OF PROCEDURES AND ISSUES IN PRESCHOOL PEER TUTORING AND BUDDY SYSTEMS

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This publication was supported by grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education, and Grant No. G008430088 of the U. S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

This product was developed by the
Functional Mainstreaming for Success (FMS) Project

This publication was supported by Grant No. G008401757, from the Handicapped Children's Early Education Program of the U.S. Department of Education: However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education and no official endorsement by them should be inferred.

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A Review of Procedures and Issues in Preschool Peer Tutoring and Buddy Systems

Introduction

The use of tutors is probably one of the oldest techniques in educational theorizing. Bausell, Moody, and Walzl (1972) state that tutoring was hypothesized to be superior to other instructional methods and class sizes as long ago as Plato's time. However, the use of peer tutoring and buddy systems, which is a relatively more recent development, can also be seen as having a long, albeit informal, history in this country's educational system. In the one room schoolhouses that possibly our grandparents or maybe even our parents might have known as school, older or more advanced students were commonly called upon to assist another student who needed individualized aid. In such a setting, the students all knew each other closely, and the peer intervention could be seen as coming from an older friend, almost like an older brother or sister. In addition to their role as academic helpers, peers were also counted upon to help a slower or younger child in going out to recess, to the bathroom and in coming and going from home to school and back.

In today's educational system, a renewed interest is being shown in peer tutoring and buddy systems because of the great educational value those systems represent. A meta-analysis of some 65 tutoring programs was reported by Cohen, Kulik, and Kulik, (1982) in which several outcomes were clear. The effect of tutoring programs on academic performance for the tutee were larger in well structured and the more cognitively oriented programs. Tutoring was seen to produce larger effects in well sequenced "lower level" skills such as math than reading. Tutoring programs of a shorter length had larger student gains. Tutors were seen to have a better understanding yielded of the subject matter in which they served as tutors. Student attitudes towards subject matter were more positive in classrooms with tutoring programs and this effect was shared by both tutor and tutee. However, Gerber and Kauffman 1981 report that somewhat similar findings of the effectiveness of peer tutoring by other studies are seriously flawed methodologically and have inadequate data analysis. Gerber and Kauffman also state that since the rediscovery of peer tutoring coincided with compensatory education programs of the 1960's, many of the anecdotal reports of the success of peer tutoring are suspect and in need of empirical research to determine how much of the effect seen is actually due to peer tutoring. But despite the value and the claimed value of these systems, very little work has been done concerning the use of such techniques at the preschool level. Of course, there are inherent limitation to the extent to which peer tutoring could be implemented with preschool children. A typical preschool child views peers as being cognitively equal and interaction consists of comparing and verifying points of view or knowledge (Musatti, 1986). The ability of a preschool child to entrust another peer is probably limited as a result. Typically, a preschool child is caught up in a constantly changing state of learning and discovery about the word and people around them, all of which seem to the child, to revolve around themselves (Musatti, 1986). But, seemingly, at the same time the preschool child is learning, he or she could be assisting another preschool child to develop skills in some basic areas that the tutor has already mastered. As previously stated, the extent to which peer tutoring and buddy system could be applied at the preschool level has not been fully explored. The purpose of this review is to present what has been accomplished to date in preschool and early school-age tutoring and to make recommendations as to what could be done to make advantageous use if what we know.

What is a Peer Tutor or Buddy?

Initially, a working definition of a peer tutor or buddy should be stated. A comprehensive, operational definition of either a peer-tutor or a buddy cannot be found in the current literature; consequently, an attempt will be made to do so here. A peer tutor at the preschool level can be seen as a child who is a trainer or teacher to assist a handicapped or nonhandicapped peer in basic academic, structured activities. While a peer-tutor may have authority given by the teacher, a peer-tutor is not authoritarian. A peer-tutor is a friend who has been trained to give academic assistance, to give appropriate prompting and praising, and to model appropriate behavior at all times. Well trained and successful tutors display correct instructional behavior and, in addition, do not forget to be a friend. Before and after, as well as during the time the tutor is assuming a teaching role, the tutor must remember to engage in appropriate interpersonal behaviors such as attending to the tutees personal needs or desires, such as a drink of water or a kleenex.

A peer-buddy, on the other hand, is a child who accompanies and guides a peer in nonacademic, noninstructional activities. A buddy is different from a tutor in that tutors provide direct training and can assume an authority role as dictated by the teacher if the need arises.

A buddy is an equal and a companion; a tutor is a trainer. However, there are times when a buddy will do some teaching and tutor will be a buddy. The roles are not clear cut absolutes. Buddies can be used for any activity at any time when the product of that activity is not being used to evaluate a child's individualized performance. Possible activities in which to use a buddy might include going to lunch, an assembly, going to class, the bus, recess, and other transitional points in a school day. Buddies could be helpful in group art, music, field trips, story time, or putting on and taking off coats and boots. The possible applications for using buddies could be found only by the practicality and necessity of each particular situation.

Why Use Peer-Tutors and Buddies?

Peer-tutor and buddy systems represent valuable educational tools by allowing teachers more time to use on other activities and by facilitating skill generalization. According to Hartup (1978), peer-tutoring at a school-age level is thought to have three main outcomes. First, it makes advantageous use of the potential existing in peer interactions for productive educational goals. Second, the tutoring situation is purported to benefit both the tutor and the tutee. In most instances, tutoring programs are designed to assist both. Third, peer tutoring provides badly needed assistance to overworked teachers. Rosenshire and Berliner (1978) found that children from 6 to 11 years of age spend at least half of their school day working privately. When a child working privately needs the teacher's individual attention, the teacher is drawn away from other students and other children needing assistance on their individual work may not receive the help they might need. Jenkins and Jenkins (1982) state that there is correlational evidence that indicates if teachers devote much time to individualized aid, these teachers are less effective overall; presumably because individual attention detracts from time available for other children. Stallings and Kaskowitz (1974) reported that time spent working with one or two other children was negatively related to achievement gains by the class but achievement gain was positively related to the time teachers spend working with small or large groups. Obviously, teachers need methods of supplying individualized aid when it is needed but still be available to assist other students. The use of peer-tutors nicely fills the need. The confirmation of similar findings at a preschool level remains an empirical question.

In addition, some data, although minimal, tend to indicate that adult intervention may distract children from an ongoing interaction and that peer reinforcement can result in greater generalization of skills (Johnson and Johnson, 1972; O'Connor 1972). The use of peers in a preschool setting to teach a word recognition task has been shown to facilitate generalization by providing common stimuli (peers) across settings (Stokes, Dowd, Rowbury and Baer, 1978). Lancioni (1982) hypothesized that, the use of several tutors in the training and administration of reinforcement, and the use of reinforcement contingencies likely to be in effect outside the training setting may facilitate the continued maintenance of the trained response and generalization across individuals and settings. The use of tutors can not only increase the pool of personnel to assist the teacher in providing individual aid but also fill a different role than that of a classroom teacher by being able to be a common stimuli across multiple settings that the teacher could not do.

There are differences between the performance of somewhat older children in a tutor role relative to a preschool age child acting as a tutor. Mehan (1979) noted the significant change seen in an elementary age child when this child assumed the role of teaching a task to another child. When being taught by the class teacher, this child didn't seem to want to pay attention and participate, and spoke only four times in three hours, only twice using more than one word. However, when this same child was asked to teach another child, a remarkable change was seen. The tutor masteredthe task that seemed difficult or uninteresting before and was able to give complex directions to peers about how to perform the task. The tutor was also seen to be able to use an appropriate, repeatedly firm but non-hostile firmness with one of the tutees, who kept trying to get the tutor's attention, achieving success that adult teacher had rarely achieved.

Although the literature has nothing to say on this subject,it may be hypothesized that when a preschool age child acts as a tutor, a child of their age will probably not be able to distance themselves from the tutee as much as an older child. A younger child may not be able to assume the role as a teacher the way the older child in the Mehan study was seen to do. Instead, a preschool child performs the role of a tutor more from the perspective of being an equal; of serving as a model or a motivator to improve and help performance by providing examples and encouragement.

It should appear obvious from the preceding discussion that if teachers wish to maintain overall effectiveness, but still be able to provide individualized aid, teachers must expand their supply of instructional personnel. A viable pool of potential instructional personnel can be found within the teacher's classroom, the children themselves, even at the preschool level.

How Can Tutors and Buddies Be Used?

Numerous studies have shown the effectiveness and wide range of applications for either peer tutors and buddies; (Cohen, et. al. 1982, Fogarty and Wang, 1982, Hall, Delquadri, Greenwood, and Thurston, 1982, Zimmerman and Rosenthal, 1974). Most tutoring research has not been conducted with preschoolers, however, a few studies have shown the efficacy at the preschool level. In a study of children's individual teaching styles, Koester and Bueche (1980), successfully taught 4-year olds to teach 3-year olds a series of block design tasks. Odom, Hoyson, Jamieson, and Strain (1985) taught preschool buddy confederates to direct social initiations to handicapped preschool children. Teachers prompted the confederates to engage in social interaction with the subjects and rewarded the confederates on a token economy system. The initiation of the confederates resulted in increased frequencies of positive social interactions by the handicapped preschooler.

The development of language is another area in which nonhandicapped preschool peers can be utilized, since the frequency, length, and complexity of the non-handicapped child's verbalizations are generally greater than the handicapped child's verbal repertoire; thus it would certainly seem feasible to influence verbalizations through peer intervention (Guralnick, 1976). Guralnick had nonhandicapped preschool children model appropriate descriptions of a scene presented on a picture card in response to a request such as "tell me about the picture". During modeling sessions in which the children alternated responding to the pictures, no feedback other than general encouragement and non-evaluative comments were given. No change was seen with this method. Next, verbal reinforcement was given to the nonhandicapped preschooler such as "Good, you're saying it the right way". The handicapped child again only received general encouragement and non-evaluative comments. But when the handicapped child produced at least six appropriate responses within the last ten trials, verbal reinforcement was given to both children. This technique produced an increased usage of target verbalizations and generalization to other verbalization was also seen. The Guralnick (1976) study shows that reinforcing a class of verbalization of a more advanced peer can result in an increase in the use of similar verbalizations in the handicapped child. It was not necessary in this instance to directly reinforce the handicapped child to obtain a change in the frequency of verbalization as might be the case in another situation. As these few studies demonstrate, the range of possible applications for preschool peer interventions is wide. However,, before nonhandicapped peers can become effective models, Devoney, Guralnick, and Rubin (1974), found that handicapped preschoolers did not imitate nonhandicapped peers until the teacher systematically structured activities to promote imitation. In most structured activities, it may be difficult to coordinate the cooperations of a very young child, a three year old, for example. Almost any type of peer interaction activity among young children may be of value to a handicapped child; Apolloni and Cooke (1975) suggest that an infant or toddler's social, verbal, and motor development skill areas present a possibility of an activity that could be organized in such a way that peers could learn from and teach one another.

The Tutor-Tutee Relationship

The research on peer-tutoring has had its main focus on the outcome of peer tutoring rather than on trying to understand the peer tutoring process. It has been suggested that the positive academic outcome could be attributed simply to additional instruction for the tutee as well as a review for the tutor. The academic outcomes of a peer-tutoring program can also at least be partically attributed to factors other than increased instruction. Other factors might include the social and motivational quality of the tutor-tutee interaction.

Gartner, Kohler, and Reissman (1971) attributed the academic gains from a peer-tutoring program to the ability of the tutor, especially a low achieving tutor, to attend to the tutee's academic and personal needs, to the special attention the tutee receiver, the availability of immediate feedback, the give and take nature of tutor-tutee work, and the opportunity to learn cooperatively. Lipitt (1976) emphasized that the tutor-tutee working relationship may become a friendship that is much closer than the relationship established between a teacher and a pupil. Gartner, et. al. (1971) is further cited as saying that in an instructional setting, the peer tutoring relationship provides a setting in which to establish a cooperative exchange between peers, a relationship that can provide a motivating influence for both tutor and tutee. These researchers have suggested that the tutoring process provides a unique opportunity to develop the tutor's sense of the social use if knowledge. Within a given skill area, a child probably has few opportunities to implement his or her skills in an interpersonal manner. In a tutoring program, a direct connection is established between the tutor's skills and their contribution to a helping relationship. Many researchers (Robertson, 1971; Yamanoto and Klentschy, 1972; Mohan, 1972; Garbarino,1975, Allen and Feldman, 1976; and Feshbach, 1976) have placed emphasis on the import of the social and affective aspects in explaining the positive learning outcome.

Sarbin (1976) viewed the tutor as assuming a role as a friend that is first, ego oriented and second, esteem oriented. Basically, more often than not tutors are valued more for their friendship and concern that for having teacher-like esteem. The tutor's role differs from that of the classroom teacher qualitatively. A teacher must interact with an extra class, consequently their personal involvement with individual children has to be much less than the one-to-one involvement seen in a tutorial relationship. The tutor's role may be enhanced by the tutee's attitude toward the tutor. Since tutors are peers, albeit possibly older, and because a tutor lacks the expertise of a teacher, the tutee will probably not see the tutor role as being exclusively a teacher. (Sarbin 1976)

The preceding discussion attempted to emphasize the fact that tutors as well as buddies; are valuable as friends, not to the exclusion of their role as teacher-trainer, but as a major addition to that role. Their friendship quality should be an important factor in the selection and training of tutors and buddies to be addressed in the next section.

Selection of Tutors and Buddies

In selecting potential tutors and buddies, past research has shown that the characteristics of a child for their job may vary considerably. Tutors have been low achieving students (Cloward, 1967, 1976; Duff and Swick, 1974),preschoolers (Apolloni, 1977; Feshback, 1976; Stokes and Baer, 1976), learning-disabled (Epstein, 1978), mentally retarded (Snell, 1979), male or female, highly preferred or not preferred by the tutee, anticipating good or poor performance from the tutee (Conrad, 1975; Ekly and Larsen, 1977) and with or without specific types of training (Conrad, 1975). Some guidelines that should be adhered to are that the potential tutor or buddy express an interest in doing the job and that a tutor possess the skill needed in the area to be tutored (Fogarty and Wong, 1982). Potential peer interventions need to be built on peers who are dependable, showing regular attendance at preschool, who possess at least age-level play skills, age-appropriate levels of social initiations to other peers, and who have willingness to comply with teacher directions. The literature does not note this, but it would appear obvious that children who demonstrate an interest in peers with handicaps such as asking questions about the handicaps or talking with handicapped children are possibly looking for increased opportunity to work with handicapped children. In selecting tutors or buddies, teachers need to be observant of the prospective tutor's or buddy's behaviors; such as approach, avoidance, helpfulness or helplessness, and persistence when faced with a slower child, a behavior problem child, or an individual from another culture or sex, (Gerber and Kaufman, 1981). Relative to criterion such as these, a verbal, outgoing child would probably be much more likely to be successful as a tutor or buddy than a shy, withdrawn child. And even though the brothers and sisters of a child with handicaps may be more aware of a handicapped child's capabilities and limitations, the literature does not uphold the idea that these children would be good candidates for being tutors and buddies (ref.). Initially, a teacher may want to use only the brightest children to act as tutors but to do so is to overlook most of the rest of the class. The tutoring process involves a review of the material for the tutor and the responsibility of being in an authority position may increase the self-esteem and self confidence of the tutor, (Cohen, et. al. 1982). The job of being a tutor does not necessitate using only the brightest students. The selection of a "problem" child to be given such an important task in the eyes of the tutee and other peers may completely turn such a "problem" child around. But problem children should not always be selected on the assumption that they will undergo a massive change because of the tutor or buddy experience. About the only "constant" to be depended upon in selecting tutors and buddies is to use children who express a desire to do the task, who possess the necessary skills in the area to be worked on, and who are verbal and outgoing. However, a study by Gallimore, Tharp, and Speidel, (1979), found that boys from families who assigned childcare tasks to male siblings were more likely to be attentive to a male peer tutor. General classroom attentiveness was who highly correlated with attentiveness to a peer tutor and to male sibling care. Data of this nature are highly culturally dependent as all the children in their study were either Hawaiian or of a mixed ethnic background of Anglo, Filipino, and Samoan. Sibling caretaking is also a significant feature of many other world societies, including some U.S. minority culture groups. So the data of this study could be highly relevant or irrelevant, depending upon the population of children at hand.

Of primary importance in the selection of tutors and buddies for any purpose is that the selection is not coerced. Volunteers should be solicited at all times to serve as tutors and buddies. Teachers should also be sensitive about a child drawing a possible preference for a buddy or tutor of a particular sex, possibly the same sex. There are significant differences between same sex dyads and different sex dyads in a tutoring context. Fogarty and Wang (1982) found that a significantly greater proportion of verbal behavior was initiated by the tutee rather than by the tutor in same sex dyads relative to different sex dyads. In opposite sex dyads, there was a greater frequency of tutee responses to tutor questions and statements. Tutees who are the same sex as their partner or who are closer in age appear to participate on a more equal basis in a tutoring relationship. But overall, the selection of tutors and buddies is dictated by the situation the teacher faces, the type of children available and the needs of the children who are to be helped by the program.

The Training of Tutors and Buddies

Whatever the positive outcomes of a peer intervention program may be, they can not be attributed to simply pairing off children and the consequent one-on-one attention and instruction (Ellson, 1976). There is widespread belief among educators and the public at large that individualized instruction, especially in a one-to-one teaching situation, is almost infallibly effective. To assert as such is to make things much simpler than in fact they are. Any peer intervention program requires a careful and systematic arrangement of procedures and strategies, (Guralneck, 1976). To have an effective peer tutor or buddy program, the program must be evaluated against a standard or goal that the program is intended to meet. Jenkins and Jenkins (1982) recommend that such programs be designed with the primary goal of helping children who are being tutored or assigned a buddy. Effectiveness is usually defined in terms of the extent to which these programs are successful in improving school achievement. As stated earlier, success is not guaranteed simply by placing potential tutors or buddies in close proximity to the children, handicapped or nonhandicapped, who are to receive the intervention. Being a good friend may come naturally to most kids but the ability to be an instructor certainly does not come innately; that capability must be carefully taught. In addition, when the children who are to be helped happen to have handicaps, the task of teaching or possibly of even being a friend, may seem overwhelming.

For example, children with handicaps experience social isolation and rejection by their peers, which became chronic conditions, not easily subject to spontaneous recovery or easy treatments (Strain, in press in 1984). Strain further points out that their isolation and rejection of handicapped children sets up a chain of events of limited social learning occasions, restricted access to more advanced behavior models, spontaneous peer tutoring, and encouragement for any appropriate behavior that does occur. Strain and Kerr (1984) postulated a social learning process taking place that gradually isolates the child with handicaps more and more. A typical instance could be that by not engaging in behaviors that are reinforcing to their peers (e.g. following the rules if a game, giving verbal compliments, or sharing toys), handicapped children becoming increasingly ignored and actively rejected. In not responding to peers positive social initiations, these children extinguish any further attempts by their peers to play and be friends. Handicapped, withdrawn children may misinterpret approach behaviors by peers (seeing rough and tumble play as being physical assaults) and by not clearly communicating the intent of their own social initiations (entering a ply group without asking to join), handicapped children may come to be viewed as frightening, unpredictable individuals to be avoided, according to Strain and Kerr. And as already mentioned, when children with handicaps are not in the close proximity of nonhandicapped peers, they lose access to important models and sources of possible reinforcement.

It is clear that part of the intervention effort must focus upon improving socialization between handicapped and nonhandicapped children. The social skills of the handicapped population can e modified and improved through the use of modeling, the reinforcement of appropriate behavior, and other techniques. But the nonhandicapped child needs training in socialization also. Perhaps the most important and initial step in preparing nonhandicapped children to interact successfully with children who have handicaps is to teach the non-handicapped children about their peers with handicaps. The nonhandicapped children may want to know, in terms they can understand, why the handicapped children are the way they are, what to expect from the children with handicaps, and what to do in case something unexpected happens.

An effective and enjoyable means of educating nonhandicapped children about children with handicaps is by means of the puppet show. By using puppets, children can be taught that a child with handicaps may look and act a little different, but actually a child with handicaps is a lot like any other child in the class. The use of puppets can teach children that Bobby, a boy with Downs Syndrome, may learn a little slower than some children, but Bobby has a best friend and a favorite kind of ice cream just like everyone else. The use of puppetry can be thought of as an"inoculation" technique to prepare nonhandicapped children so they won't be overwhelmed when they come into contact with handicapped children. A puppet show can present handicapped children and their behavior in a somewhat milder form of the real situation. If non-handicapped children can see the handicapped children is an enjoyable, nonfrightening and most importantly, educational context that is "easier to swallow and digest", they will be much better prepared for receiving handicapped children than without their preparation. An inoculation gives the body a watered-down version so that when the real disease is encountered, the body will not be overwhelmed, hence the analogy given here. To further prepare the potential tutor or buddy for working with handicapped children, an informal play setting could be arranged for allowing the children to mingle, allowing the tutors or buddies to observe the children they will be working within the classroom. An orientation session to air any questions and allay any fears the tutors or buddies may have is an excellent idea at this point. A more specific form of "inoculation" training for tutors and buddies ins the use of role playing. Osguthorpe and Harrison (1976) have included that role playing tutoring skills was important to the success of the program. During role playing sessions, a trainer or the classroom teacher will play the part of the tutee or the child to be assigned a buddy, and the tutor or buddy in training will learn how to interact successfully as a tutor or buddy. The trainer can then imitate, to some extent, the behavioral deficits and problems that the tutor or buddy will have to deal with. Now at the same time the trainer is playing the role of a child with handicaps, he or she is still training the child learning the new role, and then the trainer must be able to talk the tutor or buddy through some typical situations that might occur. For example, if a command or request is given and the tutee does not respond, the command must be repeated with increased verbal emphasis and possible physical prompting, until stimulus control becomes effective. Anytime a command is obeyed, appropriate praise and reinforcement must be given. The subtleties of using differences in voice inflection to gain attentional control or to convey praise may not be apparent to the tutor or buddy and might have to be demonstrated and coached. A potential problem that has been seen in some tutor training has been that the tutor is a good friend and equal to the tutee and consequently the tutor has some difficulty assuming an authority role in giving commands and praising the tutee. Tutors appear to be hesitant to assume a role superior to another child and appear uncomfortable using voice inflections to convey praise of the type needed to reinforce behavior. It must be stressed that for the hour or half-hour that tutoring is done, the tutor is in charge and can give commands and "talk down" to the tutee because that is the tutor's job. However, before and after the tutoring sessions, the tutor and tutee are just good friend and on an equal basis.

Other general teaching skills which cut across a number of instructional tasks include giving clear instructions and commands, confirming correct responses, applying non-primitive corrective procedures, modeling correct and appropriate behavior, avoiding being too quick to help or overprompting, and being a good friend before and after work as mentioned earlier. Studies have shown that children who tutor do not engage in these behaviors spontaneously. Neidermeyer (1970), found fifth and sixth graders who had received no specific tutor-training, tended to confirm correct responses given during tutoring, less than 50% of the time, rarely gave corrective feedback, and did not praise their tutees. In contrast, tutors who had received training in these behaviors exhibited high rates of appropriate instructional behavior. Research that has been conducted on the teaching style of children has indicated that great differences exist among youngsters in their delivery of positive and negative consequences during instruction. Fechback (1976) has noted that a child's tendency to provide positive or negative feedback to another child in the form of verbal and nonverbal cues is related to factors such as the tutor's socioeconomic class, race, mother's reinforcement style, and cognitive-achievement competence. Koester and Bueche (1980) found that among 3 and 4 year olds, demonstration of a task at hand was the most frequently used teaching method, followed by assistance and explanatory methods respectively. their study also found that males used correction more than females. So it would appear that some children may approach the tutoring role with interpersonal and social skills, while other children will necessitate specific training and supervision to prevent negative learning conditions from arising which might interfere with learning but also make the tutor-buddy experience a negative experience for all children involved.

In addition to these skills, Jenkins, and Jenkins (1982) suggest that to increase efficiency, tutors could be trained in gathering and replacing work materials, time allocation, measuring and recording student performance, and possibly monitoring and participating in post-tutoring game activities that the tutee or buddy may have earned. However, the extent to which preschoolers can be expected to be material and time managers is no doubt limited in practicality and may be exceeding the proper role of peer tutors or buddies.

In a specific form of training for buddies, Odom et. al (1985), taught three non-handicapped preschool children (termed confederates) to direct specific types of social initiations to handicapped children. The social initiations were basically to engage in sharing and play organization responses. These social initiations resulted in an increase in the frequency of positive social interactions between the subjects and the confederates. Teacher prompting and reinforcement was needed to maintain imitations and interactions. With any peer program, the tutors and buddies must be adequately reinforced to maintain good work or they will lose desire to be a tutor or buddy. Teacher praise may be enough to insure adequate performance by tutors and buddies but other reinforcement measures might be needed. A token economy could be implemented. Stickers are effective reinforcers, or special privileges such as being let out first for recess or lunch could prove very desireable and reinforcing to tutors and buddies. Careful observation of a child's behavior and talking to a child's parents could reveal a lot about subtle events that might be overlooked but that could serve as potent reinforcers for a particular child. Keeping a tutor or buddy motivated may not have to be a test of a teacher's creativity, but creative thinking and careful observation could supply more and novel reinforcers to keep tutors and buddies performing well.

Conclusions

Children who have learning disabilities, behavior problems, sensory and/or motor handicaps, or mental retardation all have one major factor in common. These children learn basic academic and social skills at a slower pace than their peers who are not handicapped. Thus from one point of view, children with handicaps can be compared to children from impoverished environments who have not had the same amount of exposure to a properly educating environment. A classroom teacher can conceivably compensate for either educational deficits experienced by the child from the deprived environment or for the child with handicaps. the teacher can, conceivably, that is, if he or she has the time. Of course, in a classroom, a teacher can not afford to spend all the time with just one child and it is a rare child who can have exclusive access to an instructor privately. Thus exists the rationale presented for peer tutoring and buddy system in the preceding discussions. The use of a child's peers can supplement the time a teacher can spend with any one child but can also teach social knowledge and develop friendship skills that a teacher can't do. The use of peers is to use a wider aspect of a child's naturally educating environment to which no child should be denied access. Peers have been shown to be effective agents of change in many spheres, but much more and should be done.

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